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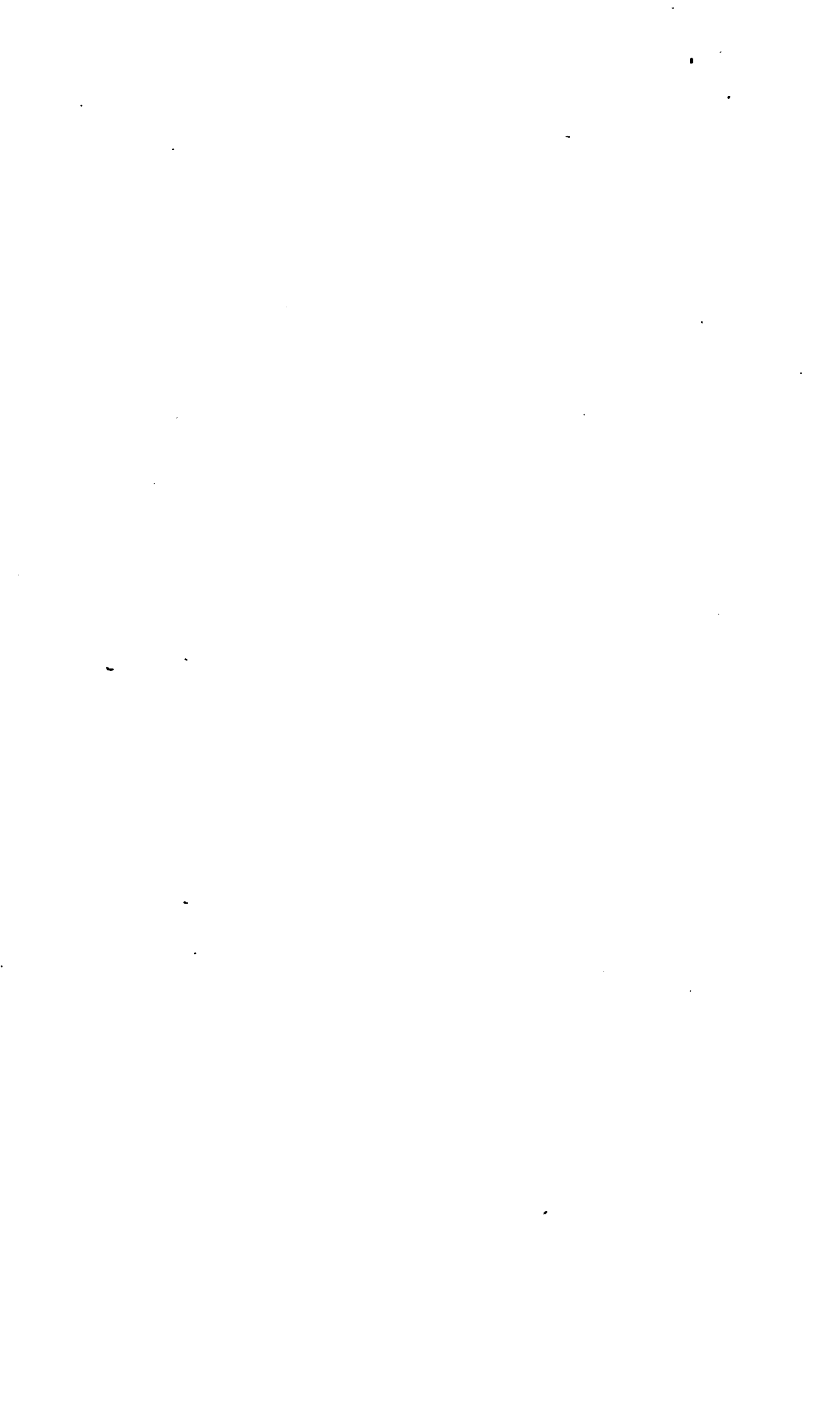
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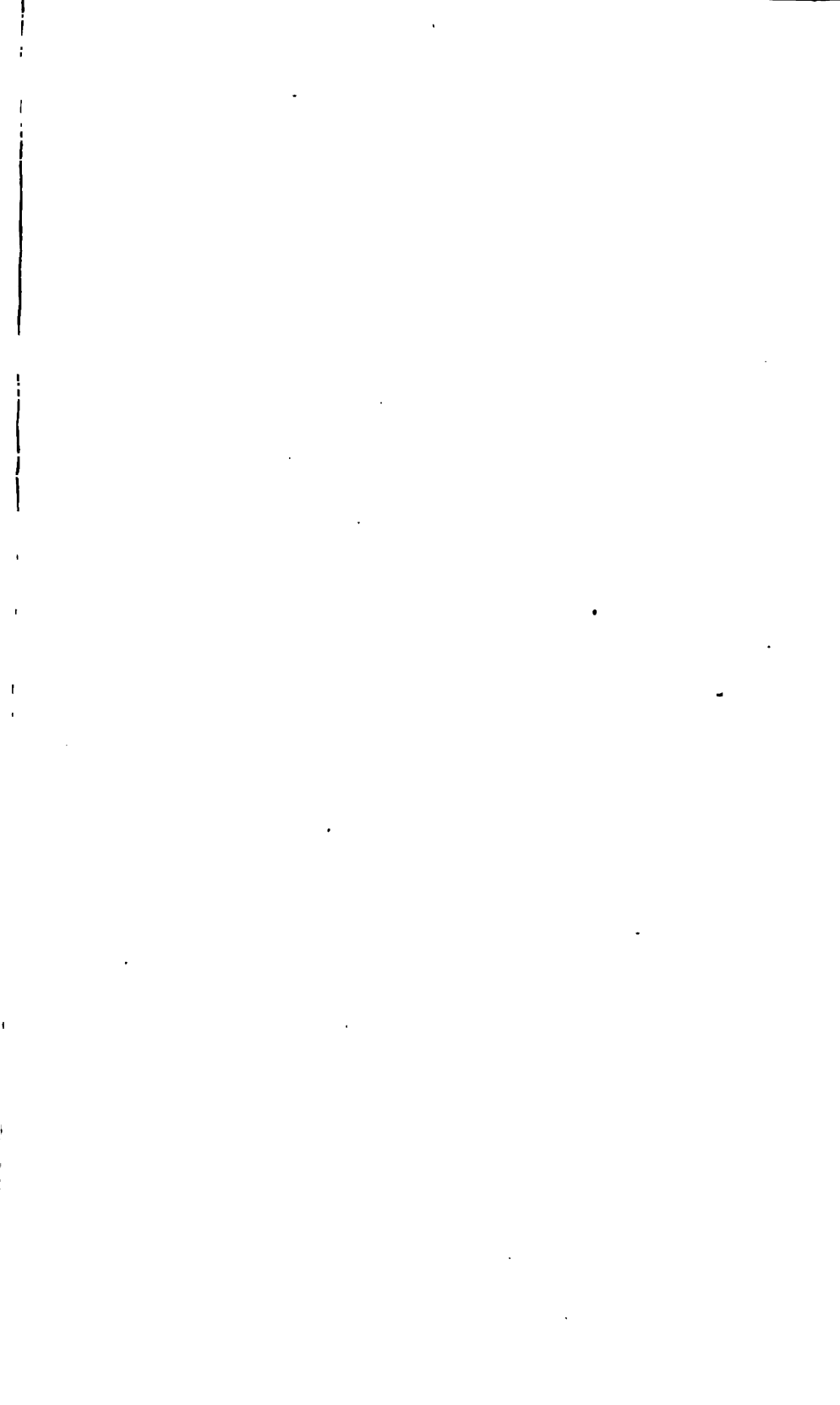














DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 1

MONTHLY RECORD  
OF CURRENT EDUCATIONAL  
PUBLICATIONS

JANUARY, 1918



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GOVERNMENT PRINTING OFFICE  
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## MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

Compiled by the Library Division, Bureau of Education.

**CONTENTS.**—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—Scientific research—School administration—School management—School hygiene and sanitation—Physical training—Social aspects of education—Child welfare—Moral education—Religious education—Manual and vocational training—Vocational guidance—Agricultural education—Commercial education—Professional education—Civic education—Schools for malmed soldiers—Education of women—Negro education—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications—Periodicals represented in this record.

### NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of its publication.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

### EDUCATIONAL HISTORY AND BIOGRAPHY.

1900. Bloss, W. E. Medieval education. *School guardian* (London) 42: 255-59. September 15, 1917.
1901. Jackson, William Walrond. *Ingram Bywater; the memoir of an Oxford scholar, 1840-1914.* Oxford, Clarendon press, 1917. xl, 212 p. front. 8°.
1902. Pearse, Padraic H. *The story of a success, being a record of St. Enda's college September 1908 to Easter 1916; edited by Desmond Ryan.* Dublin and London, Maunsel & company, ltd., 1917. xiii, 127 p. illus. 12°.

## CURRENT EDUCATIONAL CONDITIONS.

*United States.*

1903. **Beals, Elvina S.** Some needs of our elementary schools. *Western journal of education*, 23:4-5, November 1917.
1904. **Blakely, Paul L.** "Public schools of disloyalty." *America*, 18:195-96, December 1, 1917.  
Conditions in the schools of New York City.
1905. **Bristol, Va.** School board. Annual report and partial survey of the Bristol, Va., public schools by the superintendent for 1913-1917. Bristol, Tenn.-Va., The King printing company, 1917. 19 p. diagrs. 12".  
Superintendent of schools: F. B. Fitzpatrick.
1906. **Finegan, Thomas E.** Elementary education. Report for the school year ending July 31, 1916. Albany, The University of the state of New York, 1917. 942 p. illus. 8". (New York. State department of education. Thirteenth annual report, vol. 2.)  
This report contains two distinctly new features: first, that which has to do with the physical training of the boys and girls in all the schools, public and private, and, second, that which is concerned with the training of adult illiterates.
1907. **Institute for public service, New York, N. Y.** Rainbow promises of progress in education. New York city, Institute for public service, 1917. 88 p. illus. 8".  
A report showing how far existing schools in different sections of the country have already incorporated the 111 different elements of method, content, and purpose which are to be experimented with in the new school of the General education board.
1908. **Thomas, Isaac.** Dr. Flexner's "A modern school." *School and society*, 6:605-8, November 24, 1917.  
Examines anew Dr. Flexner's paper in order to understand a little more clearly what the school at Columbia is to be and what it proposes to do.
1909. **United States.** Bureau of education. The public school system of San Francisco, Cal., being a summary of Bulletin . . . 1917. San Francisco, Cal., 1917. 47 p. 8".  
A report to the San Francisco board of education of a survey made under the direction of the United States Commissioner of education. Prepared for the teachers of San Francisco by the Education committee of the San Francisco teachers' association, October 1917, under the direction of Milton E. Blanchard. This summary is condensed to about one-tenth of the full size of the report.

*Foreign Countries.*

1910. **Blake, Sir Henry.** The education of a nation. *Nineteenth century*, 82:1055-59, November 1917.  
Education in Siam.
1911. **Bloss, W. E.** The dawn of modern education. *School guardian* (London) 42:275-79, October 20, 1917.  
Emphasis is laid on the endowed schools of England. To be continued.
1912. **De Montmorency, J. E. G.** National education and national life. *Quarterly review*, 228:444-64, no. 453, October 1917.  
Discusses the system proposed by the new Education bill now pending in Parliament.
1913. **Finley, John H.** A message from France. *American education*, 21:212-14, December 1917.  
Address before the New York state teachers' association, November 1917.  
The duty of the schools in war times. Tells of the heroic French teachers, who, all along the line of fire, hold their classes within sound of the cannon.

1914. **Fisher, Herbert.** Education in England during the war. School news of New Jersey, 7: 9-10, November 1917.  
 Extracts from an address in the House of commons, April 19, 1917.  
 An appreciation of the public elementary schools of England by its minister of education.
1915. **Gallouédec, Louis.** L'enseignement public au Maroc. Revue pédagogique, 71: 313-39, October, 1917.  
 Shows the progress made in establishing schools in Morocco during the five years of the French protectorate over that country.
1916. **La Grande revue, Paris.** [Educational number] 94: 385-592, September 1917.  
 Contains: 1. Paul Crouzet: La revision d'ensemble de l'éducation nationale, p. 392-95. 2. Abel Faury: La guerre et l'esprit française, p. 396-413. 3. Albert Favre: Les enseignements de la guerre pour l'armée de demain, p. 414-51. 4. J.-P. Bounhiol: Les leçons de la guerre pour l'enseignement supérieur, p. 452-60. 5. J. Bezar, E. Pouthier, J. P. Bounhiol: Les leçons de la guerre dans l'enseignement secondaire, p. 461-88. 6. Emile Bugnon: L'école primaire et les leçons de la guerre, p. 489-511. 7. L. Tripard: L'enseignement technique et la guerre, p. 512-22. 8. G. Maréchal: Enseignements technique et artistique d'après-guerre. 9. "Pages libres"—Enquête sur les leçons de la guerre pour tous nos enseignements, p. 529-91.
1917. **Lacabe-Plasteig.** L'école pendant la guerre. Revue pédagogique, 71: 340-77, 493-521, October, November 1917.  
 Gives results of the exposition of "the school and the war," held by the Ligue de l'enseignement at Paris, May 6-20, 1917.
1918. **Talbot, Winthrop.** The imperial plan in German schooling. Century magazine, 95: 199-204, December 1917.  
 Introduction by John Dewey.

### EDUCATIONAL THEORY AND PRACTICE.

1919. **Aubin, A.** Savoir positif et procédés mécaniques d'enseignement. Revue pédagogique, 71: 243-61, September 1917.  
 Discusses the relative effectiveness of teaching by mechanical methods, and of teaching which makes a subject intelligible to the pupil.
1920. **Brown, George J.** The private school a power in education. Business educator, 23: 26-27, 24, December 1917.  
 From the Philadelphia record educational guide.  
 Claims certain advantages for the private school over the public school.
1921. **Burk, Frederic.** Education by dynamism. Journal of the Association of collegiate alumnae, 11: 217-25, December 1917.
1922. **Cloyd, David E.** Modern education in Europe and the Orient. New York, The Macmillan company, 1917. 451 p. 12°.  
 Describes for the normal school and college student the educational systems of England, Scotland, France, Germany, Switzerland, Holland, Denmark, Norway, Sweden, Japan, and China.
1923. **Dearborn, George Van Ness.** The "new education" and practical affective wisdom. Atlantic educational journal, 13: 119-21, November 1917.  
 Thinks that the new experimental school course might include instruction in the emotions—something of the nature, the force, and the dangers of the emotions.
1924. **Florer, Warren Washburn.** Modern elements in Luther's educational writings. Monatshefte für deutsche sprache und pädagogik, 18: 277-80, November 1917.  
 Undertakes to restate Luther's conception of education in the light of modern reform movements.

1925. **Guthrie, Kenneth Sylvan.** Teachers' problems and how to solve them; a handbook of educational history and practice, or comparative pedagogy, with an appendix on the mission and limits of the history of education. Grantwood, N. J., Comparative literature press [1917] 170 p. 12°.
1926. **Harberton, Ernest Arthur George Pomeroy, Viscount.** How to lengthen our ears; an enquiry whether learning from books does not lengthen the ears rather than the understanding. London, C. W. Daniels, ltd., 1917. 234 p. front. 12°.  
Aims to show that more is owed to unlearned people than to the sons of learning, and that "the whole education craze is a wicked mistake."
1927. **La Bue, Daniel Wolford.** The science and the art of teaching. New York, Cincinnati [etc.] American book company [1917] 336 p. illus., diags. 12°.  
Bibliography: p. 319-25; references also at end of each chapter.
1928. **Mercier, Charles A.** The principles of rational education. High Holborn, W. C., The Mental culture enterprise, 1917. xi, 87, 15 p. 12°.
1929. **Miller, Irving Elgar.** Education for the needs of life; a textbook in the principles of education, for use in elementary classes, in normal schools and colleges and in institutes and reading circles. New York, The Macmillan company, 1917. vii, 353 p. 12°. (Home and school series, ed. by P. Monroe)  
Conceives of education as an integral phase of the life process. Conscious, or intentional education gives guidance and direction to the natural learning processes.
1930. **Talbot, Anna H.** The work-study-play plan vs. the old-time formalism. *Education*, 38: 197-204, December 1917.  
A general discussion of the Gary plan. Says that the "work-study-play" method assembles excellent features which have never before been brought together in one system.

#### EDUCATIONAL PSYCHOLOGY—CHILD STUDY.

1931. **Baldwin, Bird T.** Educational psychology. *Psychological bulletin*, 14: 341-51, October 1917.  
Reviews the texts, treatises, monographs, and manuals issued during the past two years on educational psychology. Bibliography: p. 347-51.
1932. **Feldman, W. M.** The Jewish child; its history, folklore, biology, and sociology. With an introduction by Sir James Crichton-Browne. London, Baillière, Tindall and Cox, 1917. xxvi, 453 p. illus. 8°.
1933. **Fillers, H. D.** Oral and written errors in grammar. *Educational review*, 54: 458-70, December 1917.  
A study based upon the assumption that if children are permitted "to speak or write fluently and without restraint, they will make the errors which are most natural, and thus reveal their true weakness in language."
1934. **Gifford, B. W.** Is the child to blame. *Southern school journal*, 30: 36-40, November 1917.  
A consideration of some problems of childhood.
1935. **Johnson, Buford Jennette.** Experimental study of motor abilities of children in the primary grades. Baltimore, The Johns Hopkins press, 1917. 62 p. diags. 8°. (The Johns Hopkins university studies in education, no. 2)
1936. **Lickley, Ernest J.** Causes of truancy among boys. Los Angeles, Cal., University of Southern California press, 1917. 12 p. 8°. (Studies in sociology, vol. 2, no. 2, November 1917)  
Based on a study of 1554 cases.

1937. **Meier, Laura A.** Concerning the pupil. *Education*, 38: 220-28, December 1917.

Deplores the lack of initiative on the part of the pupil. Attributes it to the formalism of the school.

1938. **Mitchell, David.** Child psychology. *Psychological bulletin*, 14: 351-61, October 1917.

Review of literature on the subject during recent years. Bibliography: p. 358-61.

1939. **Suggestions of modern science concerning education**, by Herbert S. Jennings, John B. Watson, Adolf Meyer, William I. Thomas. New York, The Macmillan company, 1917. vii, 211 p. pl., fold. tab., diagr. 12°.

Lectures delivered before the "Joint committee on education," a self-organized body of Chicago citizens. Foreword signed: E. S. D. [i. e. Mrs. E. S. Dummer] for the committee.

CONTENTS.—The biology of children in relation to education, by H. S. Jennings.—Practical and theoretical problems in instinct and habits, by J. B. Watson.—Mental and moral health in a constructive school program, by A. Meyer.—The persistence of primary-group norms in present-day society and their influence in our educational system, by W. I. Thomas.—Modern conceptions of mental disease, by A. Meyer.

1940. **White, William A.** The mechanism of transference. *Psychoanalytic review*, 4: 373-81, October 1917.

Contains suggestions on education. Says that the positive and negative attitudes of children towards their teachers are but outward signs of the capacity of the particular teachers in question to really help the children.

### EDUCATIONAL TESTS AND MEASUREMENTS.

1941. **Cornell, C. B.** A graduated scale for determining mental age. *Journal of educational psychology*, 8: 539-50, November 1917.

"The author describes a new scale for mental age, and presents the results of its use with over 400 children. The merits claimed for the scale are employment of the point scale principles, appeal to the interest of the child, measurement of native ability, speed of application, and ease of evaluation."

1942. **Courtis, Stuart A.** Measurement of the relation between physical and mental growth. *American physical education review*, 22: 464-81, November 1917.

Read at the Middle west society of physical education and hygiene at their fourth annual conference, Chicago, April 13, 1917.

1943. **Henmon, V. A. C.** The measurement of ability in Latin. Part I. Vocabulary. *Journal of educational psychology*, 8: 515-38, November 1917.

"Presents a detailed study of the Latin-English, English-Latin vocabulary of 252 first-year high school pupils in ten high schools. The method of constructing the vocabulary tests is described, the results are presented, and the words are arranged in order of increasing difficulty."

1944. **New York (State) Board of charities.** Bureau of analysis and investigation. Mental examinations. Albany, N. Y., 1917. 73 p. 8°. (*Eugenics and social welfare bulletin*, no. 11)

Contains accounts of examinations of orphan asylum children, delinquent girls, delinquent women, public school children, and Indian children; report of mental reexamination of 37 children ten months after the first examination; report on a special class of 11 defective children.

1945. ———. Performance norms for thirteen tests. Albany, N. Y., 1917. 142 p. 8°. (*Eugenics and social welfare bulletin*, no. 8)

Describes tests which are a part of those used by the Bureau to supplement the Binet-Simon measuring scale for intelligence.

1946. **Palmer, A. N.** Standards for the evaluation of efficiency in Palmer method handwriting. First—eighth grade. New York, Boston [etc.] The A. N. Palmer company, 1917. 8 leaflets. 4°.

1947. **Tidyman, W. F. and Brown, Helen A.** The extent and meaning of the loss in "transfer" in spelling. *Elementary school journal*, 18: 210-14, November 1917.  
An experiment to determine just what part of the skill gained in the column presentation of words is carried over into contextual use. The class that participated in the experiment was grade 6, Hart school, Stamford, Conn.
1948. **Uhl, W. L.** The use of standardized materials in arithmetic for diagnosing pupils' methods of work. *Elementary school journal*, 18: 215-18, November 1917.
1949. **Updegraff, Harlan.** Educational measurements. *Old Penn*, 16: 220-23, November 30, 1917.  
A lecture delivered November 24, in the series of free public lectures by members of the faculty in Houston Hall, University of Pennsylvania.  
Speaks of the character and scope of some of the typical educational measures that have thus far been evolved, and shows their practical use.
1950. **Wallin, J. E. Wallace.** The phenomenon of scattering in the Binet-Simon scale. *Psychological clinic*, 11: 179-95, November 15, 1917.
1951. **Woody, Clifford.** Educational measurements in the state of Washington. *Northwest journal of education*, 29: 12-15, December 1917.  
The prominence of the measurement movement, the different reactions which have been made to the question, and the need for cooperative work on the part of the school men of Washington state.
1952. **Zimmerman, Joseph.** The Binet-Simon scale and the Yerkes point scale. A comparative study based on the examination of 100 cases. *Journal of educational psychology*, 8: 551-58, November 1917.  
"The author concludes that the results are practically identical for the first two years; that after the tenth year the reliability of the Binet Scale greatly decreases; and that the Yerkes Scale gives satisfactory results for at least four years beyond the point where the Binet Scale falls."

### SPECIAL METHODS OF INSTRUCTION.

1953. **Clark, Ridgley C.** Reading by the intelligence method. *Education*, 88: 205-207, December 1917.  
Presents the theoretical and practical advantages of the intelligence method. As regards the latter, the writer says that by it children learn 2,000 words a year easily.
1954. **Titworth, Paul E.** Devices for classroom procedure. *Modern language journal*, 2: 68-77, November 1917.  
Devises for oral and written composition, for reading, for grammar work, for dictation work, and for word study in the teaching of modern languages.

### SPECIAL SUBJECTS OF CURRICULUM.

1955. **Avent, Joseph E.** The social demand for arithmetic. *Virginia journal of education*, 11: 163-67, December 1917.  
The results of a study made to find out to what extent arithmetic is used in everyday life and the kind of problems that are most frequently used.
1956. **Ballard, P. B.** How to write with the left hand. *School world (London)* 19: 365-68, November 1917.  
To be continued.
1957. **Bonner, Campbell.** A question of emphasis. *Classical journal*, 13: 206-11, December 1917.  
Writer thinks that too much emphasis is being laid in school and college teaching upon what may be called the externals of Greek and Roman life.
1958. **Camp, Pauline B.** Correction of speech defects in a public school system. *Quarterly journal of public speaking*, 3: 304-9, October 1917.

1969. Carpenter, Harry A. General science in the junior high school at Rochester, N. Y. General science quarterly, 2: 255-66, November 1917.  
Part II. Course of study.  
Part I. The organization and aims of a general science course in the junior high school, appeared in the issue of General science quarterly for November 1916.
1960. Churchman, Phillip H. The study of French literature. Modern language journal, 2: 53-67, November 1917.  
Is it worth while for the American student to study French literature and how may that study be pursued?
1961. Diebel, Amelia, and Sears, Isabel. A study of the common mistakes in pupils' written English. Elementary school journal, 18: 172-85, November 1917.  
An investigation of the written work of Cincinnati school children. Says that emphasis should be laid on improvement in forms of speech in the oral language of the pupils, and in written work that item will then take care of itself.
1962. Drummond, Alec M. For the director of dramatics. English journal, 6: 658-63, December 1917.  
An article made up of bibliographical references. Very helpful.
1963. Dykema, Peter W. High school music and its problems. Mother's magazine, 18: 51-52, 98, January 1918.
1964. Eliot, Charles W. Latin and the A. B. degree. New York city, General education board, 1917. 21, xxi p. 8°. (General education board. Occasional papers no. 5)  
A consideration of the expediency of continuing to require some knowledge of Latin on the part of all candidates for the degree of Bachelor of Arts. Contains tables showing the present status of Latin requirements in the United States.
1965. Fowler, H. E. American literature for American schools. English journal, 6: 637-44, December 1917.  
Says that the close study of literary style and technique should have no place in the high-school course. Advocates the wide and intelligent reading of American literature in the liberal education of loyal American citizens.
1966. Gale, Harlow. Musical education. Pedagogical seminary, 24: 508-14, December 1917.
1967. Grummann, Paul H. The question of methods. Monatshefte für deutsche sprache und pädagogik, 18: 281-84, November 1917.  
Methods of modern language teaching.
1968. Hatch, I. C. The downward extension of the modern language curriculum. Modern language journal, 2: 47-52, November 1917.  
Advocates the extension of modern language instruction downwards at least two years into the elementary grades.
1969. Haxo, Henry. Foreign languages in our secondary schools. Inter-mountain educator, 13: 13-15, November 1917.  
Says "It is not an irreparable loss if German is dethroned from its former position of supremacy in our secondary schools to be placed on an equal footing with the other foreign languages."
1970. Hagner, Robert W. A plan for the teaching of general zoology. School science and mathematics, 17: 763-78, December 1917.
1971. Henderson, Bertha and others. An outline of the courses in geography in the University elementary school. Elementary school journal, 18: 186-206, November 1917.  
Third paper of series; to be continued. Takes up studies of South America and Africa, for sixth grade children, who are asked not only "to explain the life conditions of a region by a study of the controlling physical conditions, but to make, from a study of these physical conditions, their own inferences regarding life-conditions."

1972. Hilliard, Evelyne. Amateur and educational dramatics; by Evelyne Hilliard, Theodora McCormick, Kate Oglebay. New York, The Macmillan company [1917] 169 p. illus. 12°.
1973. Hitchcock, George A. The classical question again. *Education*, 38: 215-19, December 1917.  
A criticism of Dr. Elliot's article "The case against compulsory Latin," published in the *Atlantic monthly*, March 1917.
1974. Kelley, P. J. The child voice in our schools. *School music*, 18: 23-26, November-December 1917.
1975. Lasher, George S. Roast beef instead of hash. *English journal*, 6: 664-76, December 1917.  
Discusses some of the problems of rhetoric teaching in secondary schools; vocational study and its effect upon rhetoric. Lays emphasis on the preparation of descriptive bibliographies by the students.
1976. Leaw, Grace P. Art for happiness. *Education*, 38: 333-37, December 1917.  
Advocates more effective art appreciation in high schools.
1977. Macurdy, Grace M. The passing of the classics. *Educational review*, 54: 439-50, December 1917.  
Reviews the recently expressed opinions on the classics of Dr. Elliot and Mr. H. G. Wells. Advocates classical education despite what has been said against it.
1978. Manley, M. Maude. The English problem and the junior high school. *Education*, 38: 208-14, December 1917.
1979. Murley, Clyde. Content studies and content teaching. *Classical journal*, 13: 193-99, December 1917.  
A criticism of Flexner's article in the April *Atlantic monthly*, in which he states that the aim of the teaching of Latin and Greek is primarily for mental discipline, and only incidentally is any other claim advanced.
1980. Nelson, Ernesto. Esthetic education. *Inter-America*, 1: 55-57, October 1917.  
Translated from an address delivered before the Liga de educacion estetica of Buenos Aires.  
Emphasizes the difference between the development of the artistic sensibilities and gifts of children, on the one hand, and the imposition of dogma, on the other.
1981. Oliver, Thomas Edward, ed. Suggestions and references for modern language teachers. Second ed., rev. and enl. Urbana, University of Illinois, 1917. 84 p. '8°. (University of Illinois. School of education. Bulletin no. 18)
1982. Osborne, C. H. C. Modern humanistic studies. *School world* (London) 19: 373-78, November 1917.  
Discusses the humanistic possibilities of modern subjects in the school curriculum.
1983. Schorling, Raleigh. Significant movements in secondary school mathematics. *Teachers college record*, 18: 438-57, November 1917.  
This material was presented at the University of Chicago conference with affiliated secondary schools, April 1917.
1984. Stewart, E. A. The place and value of general science. *School science and mathematics*, 17: 777-83, December 1917.  
Address delivered at the Minnesota State teachers' association, Duluth, Minn., February 23, 1917.
1985. Thomson, Jeannie B. The art of teaching arithmetic; a book for class teachers. London [etc.] Longmans, Green and co., 1917. 295 p. 12°.



1986. Tressler, I. C. High-school grammar. I. An investigation. *English journal*, 6: 645-57, December 1917.  
Second article of a series. Gives graphical representations by high-school years and by types of errors. The grammatical knowledge of 1,121 pupils was tested. Work done in the Newton high school, of New York city.
1987. Wells, Hugh N. Judging debates. *Quarterly journal of public speaking*, 3: 336-45, October 1917.
1988. West, Andrew F. Our birthright or a mess of pottage. *Educational review*, 54: 433-38, December 1917.  
A plea for the classics. Discusses the appeal of the Princeton classical conference, in June, to renew interest in classical education.
1989. Whitbeck, R. H. Suggestions for teaching elementary geography. *Journal of geography*, 16: 121-28, December 1917; 171-76, January 1918.
1990. White, Holman. The aims of the new course of study in history. *Current education*, 21: 291-94, November 1917.
1991. Whitman, W. G. The place and purpose of general science in education. *General science quarterly*, 2: 284-93, November 1917.  
Paper given before the Science section of Tufts college teachers' association, October 27, 1917.
1992. Zeitlin, Jacob. Grammar, logic, rhetoric. *Illinois association of teachers of English bulletin*, 10: 1-19, December 1, 1917.  
The change of view in respect to teaching grammar and the arguments that have been advanced for and against it.

#### KINDERGARTEN AND PRIMARY SCHOOL,

1993. Ledyard, Mary F. Kindergarten housing and kindergartens around the Pacific's rim. *Kindergarten and first grade*, 2: 401-9, December 1917.  
illus.  
The housing of kindergartens in China, Japan, Honolulu, and the Pacific coast of the United States.
1994. Maucourant, B. De l'école maternelle à l'école primaire. *Revue pédagogique*, 71: 395-405, October 1917.
1995. Shiels, Albert. Report on a self-directed system of kindergarten supervision. *Elementary school journal*, 18: 206-9, November 1917.  
Work in Los Angeles, Cal. A kindergarten experiment in self-help.

#### RURAL EDUCATION.

1996. Webb, J. C. Rural consolidated schools super-excellent for elementary education. *Journal of education*, 86: 569-71, December 6, 1917.  
The efficiency of the rural consolidated school is greater than that of the district school, according to data gathered in Johnson county, Ind.

#### SECONDARY EDUCATION.

1997. Landsittel, F. C. and Oliver, C. E. The junior high school. *Ohio teacher*, 88: 156-57, November 1917.  
Discusses briefly the distinctive features of the junior high school.
1998. Mackie, Ransom A. A new high school curriculum. *Northwest journal of education*, 29: 11-15, November 1917.  
The writer says that the required subjects in the high school should be English, some phases of the history of civilization, and modern, civic and social problems. The rest of the studies will depend absolutely upon the student's aptitudes, interests, needs and aims in life.

1999. **Miller, Howard P.** The State and the public school system. *Inter-mountain educator*, 13: 16-18, November 1917.  
The secondary schools and the movements in the United States during the last decade which have smacked strongly of Prussian ideas.
2000. **Monsees, A. H.** A study of the cost of high school instruction in Kansas City. *American school board journal*, 55: 21-22, 79, December 1917; 56: 24, January 1918.
2001. **Richardson, Myron W.** Economics in high school management. *School and society*, 6: 686-89, 714-19, December 8, 15, 1917.  
Read before the Harvard teachers' association.  
Recommendations made by a committee of headmasters of Boston, appointed to study the high schools of that city to see whether or not money could be saved without reducing teachers' salaries or decreasing the efficiency of the schools.
2002. **Wegelein, David Emrich.** The correlation of abilities of high school pupils. Baltimore, The Johns Hopkins press, 1917. 100 p. tables. 8°. (The Johns Hopkins university studies in education, no. 1)

### TEACHERS: TRAINING AND PROFESSIONAL STATUS.

2003. **American association of university professors.** *Bulletin*, vol. 3, no. 7, November 1917.  
Contains the report of the president and the report of the committee on pensions and insurance.
2004. **Bronsky, Amy.** Improving teachers in service. *Educational review*, 54: 451-57, December 1917.  
Says that "as long as the salary schedule is based on experience alone instead of upon merit and additional preparation, teachers will lack an effective stimulus towards self-improvement."
2005. **Day, Grace A.** Experimental teaching and its relation to elementary education. *Teachers college record*, 18: 419-29, November 1917.
2006. **Elliott, Edward C.** Measuring the merits of teachers. *Sierra educational news*, 13: 475-77, December 1917.
2007. **Gowen, Herbert H.** The teacher and his ideals. *Pedagogical seminary*, 24: 559-68, December 1917.
2008. **Lane, Winthrop D.** Giving the teachers a voice. *Survey*, 39: 279-81, December 8, 1917.  
Discusses greater academic freedom for the public school teachers, based upon the effort to discipline nine teachers in De Witt Clinton high school, New York city, for an "insufficiently robust loyalty to the United States." Urges greater cooperation between the teachers in high and intermediate schools and the superintendent's office.
2009. **Nyrop, Christophe.** The imprisonment of the Ghent professors; a question of might and right. My reply to the German legation in Stockholm. London, New York [etc.] Hodder and Stoughton, 1917. 91 p. 12°.
2010. **Reymart, Martin Luther.** The psychology of the teacher: an introductory study. *Pedagogical seminary*, 24: 521-58, December 1917.  
Bibliography: p. 555-58.  
A study of the sex, age, personality, physical appearance, etc., of teachers and the effect of each upon the children.
2011. **Swift, Fletcher H.** College courses in methods of teaching high-school subjects. *School and society*, 6: 691-99, December 15, 1917.  
Gives the recommendations of a committee on teacher-training as to what should be the character of a special methods course.

2012. **Teaching**, vol. 3, no. 9, October 15, 1917. (The professional institute)

Contains: 1. F. J. Kelly: The problem method applied to teachers' institutes, p. 5-10. 2. H. M. Culter: The professional institute and the rural teacher, p. 10-12. 3. H. B. Wilson: Types of teachers' institutes, p. 13-16. 4. R. A. Schwegler: The teacher and his profession, p. 17-18. 5. The Leavenworth county plan, p. 19-21.

### HIGHER EDUCATION.

2013. **Abbott, Lyman**. A typical college professor. (Knoll papers) Outlook, 117: 640-41, December 19, 1917.

A review of Prof. Brander Matthews' recent autobiography, "These many years."

2014. **Aydelotte, Frank**. The Oxford stamp and other essays; articles from the educational creed of an American Oxonian. New York, Oxford university press, 1917. 219 p. 12°.

CONTENTS.—1. The Oxford stamp.—2. Spectators and sport.—3. The religion of punch.—4. A challenge to Rhodes scholars.—5. English as humane letters.—6. An experiment with the freshman course.—7. The correlation of literature and composition.—8. Robert Louis Stevenson darkening counsel.—9. The history of English as a college subject in the United States.—10. The problem of English in engineering schools.

2015. **Bard, Harry Erwin**. Scientific teaching of Spanish and other languages. Bulletin of the Pan American union, 45: 497-506, October 1917.

A study of the foreign language instruction given in universities and colleges of the United States.

2016. **Bourne, Randolph**. The idea of a university. Dial, 63: 509-10, November 22, 1917.

Discusses the question of academic freedom with particular reference to Columbia university.

2017. **Briggs, Thomas H.** The rating of themes by the College entrance examination board. English leaflet, 18: 1-13, December 1917.

2018. **Columbia university**. Annual report of President Butler for 1916-1917. New York, Columbia university, 1917. 64 p. 8°.

Some noteworthy sections in this report are those on a Junior college, Worth of college teaching, Government and administration, and Academic tenure and obligation.

2019. **Ewer, Bernard C.** College study and college life. Boston, R. G. Badger; [etc., etc., 1917] 228 p. 12°. (Library of educational methods)

Bibliography: p. 227-28.

2020. **Ferguson, Charles**. The university militant. Bookman, 46: 369-80, December 1917.

A presentation of the underlying philosophy of higher education; the university spirit during the middle ages and in modern times.

2021. **Hawthorne, Hildegard**. Rambles in old college towns. New York, Dodd, Mead & company, 1917. 364 p. illus. 8°.

An account in popular style of visits to the grounds and buildings of 16 American colleges and universities.

2022. **Hines, H. C.** The status of the public junior college in the United States. Educator-journal, 18: 180-86, December 1917.

Bibliography: p. 186.

2023. **Hopkins, Ernest Martin**. A college vision. Journal of education, 86: 508-10, November 22, 1917.

Advocates, for the cultural college, fewer subjects better taught, a high-minded consecration to the needs of the state, a limit on individualism, and more emphasis on the development of character.

2024. **Keppel, Frederick P.** The undergraduate and his college. Boston and New York, Houghton Mifflin company, 1917. 374 p. 12°.  
A study by the dean of the college, Columbia university, of the merits and demerits of the American college system, its adaptability to various types of students, and its usefulness in average conditions of life, with special reference to the effect of war-time conditions on higher education.
2025. **Park, Julian.** A history of the University of Buffalo. Illustrated. Buffalo, 1917. 87 p. 8°.  
Reprinted from volume XXII of the Publications of the Buffalo historical society.
2026. The unique democratic college. Berea, of Kentucky, which educates the mountaineers of half a dozen states—cost of living reduced to a minimum. School, 29: 150-51, December 6, 1917.
2027. The Yearbook of the universities of the empire, 1916 and 1917. Published for the Universities bureau of the British empire. London, H. Jenkins, ltd. [1917] 412 p. 12°.

### SCIENTIFIC RESEARCH.

2028. **Mees, C. E. Kenneth.** The production of scientific knowledge. Science, n. s. 46: 519-28, November 30, 1917.  
Discusses research work in universities; the classification and utilization of scientific knowledge.
2029. **Woodward, Robert S.** The Carnegie institution and the public. Science, n. s. 46: 573-81, December 14, 1917.  
From report of the president of the Carnegie institution, Washington, D. C., 1917.

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2030. **Dorsey, Susan M.** Supervision as liberating the teacher. Journal of education, 86: 535-36, November 29, 1917.  
The writer says that "To liberate teachers, supervisors must be not military tacticians, not mechanical organizers, but courteous directors, skilful suggesters, inspirational leaders, subtle path-finders."
2031. **Dunbar, M. M.** Functions and organization of the Bureau of education. School and society, 6: 661-68, December 8, 1917.
2032. **Engleman, J. O.** Increased revenue or economy—which? School and home education, 37: 75-78, December 1917.  
Read before a joint meeting of the Illinois state school board association and the Illinois city superintendents' association in Peoria, November 21, 1917.  
A plea for more money for the schools. The writer says that "As numerous and as staggering as are the demands that are made upon us by the war, we are wholly able as a people to keep our schools going and even advancing while we meet every other legitimate demand that is made upon us."
2033. **Goldberg, Edward.** The purchase of rural school supplies in California. American school board journal, 55: 23-24, 79, December 1917.  
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2034. **Leonard, Albert.** Methods of supervision. School bulletin, 44: 64-66, November 1917.  
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2035. **Maryland.** State board of education. Report covering one year of compulsory school attendance in the counties of Maryland, including an account of five years of compulsory school attendance in Baltimore county. Baltimore, State board of education [1917] 55 p. 8°.

2066. Perry, Arthur C., jr. The problem confronting the new board of education of the city of New York. New York, 1917. 11 p. 8°.  
The difficulties in the New York city schools facing the new board and the opportunities for improvement in the administration of the schools.
2067. Stetson, Paul C. Some examples of efficiency in school business management. American school board journal, 55: 17-19, 79, December 1917.  
Business management of the schools of Grand Rapids, Michigan.
2068. Wagner, Charles A. Invigoration thru supervision. American school board journal, 55: 27, 77-78, December 1917.  
A plan of invigorating instruction by means of supervision.

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2069. Bobbitt, J. F. Summary of the literature in scientific method in the field of curriculum-making. Elementary school journal, 18: 219-29, November 1917.
2070. Chancellor, William Estabrook. The proper elementary course of ten-year-old pupils. Ohio teacher, 38: 151-52, November 1917.  
Tells of the continuous readjustments that are necessary in the course of study of a ten-year-old boy in this time of war, that he may learn the lessons of economy and be prepared for the after-effects of the war.
2071. Dunn, Grace A. The value of supervised study. Teachers college record, 18: 430-37, November 1917.  
A report of an experiment made in the public schools of a system near New York city, in February and March 1916, wherein the relative merits of directed and undirected study were considered.
2072. Simpson, James Herbert. An adventure in education. London, Sidgwick & Jackson, ltd., 1917. x, 207 p. 12°.  
An account of an experiment in the educative effect of self-government upon one of the lower forms of Rugby school, England.
2073. Super, Charles W. Recitation or lecture? School and society, 6: 640-46, December 1, 1917.
2074. Washichek, F. J. Defects of the average recitation. Catholic school journal, 17: 324, 345-46, December 1917.  
Discusses four defects of the recitation: vagueness, lack of thought stimulus, lack of instruction, and waste of time and energy.

### SCHOOL HYGIENE AND SANITATION.

2075. Allan, Harold A. Improvement of health conditions in the rural schools of Maine. American journal of school hygiene, 1: 157-63, November 1917.
2076. Golden, William W. The school and the health of our citizens. West Virginia school journal and educator, 46: 234-35, December 1917.  
Says that the recent examinations for the draft show that the physical condition of our young men is far from what it should be. Suggests ways in which the teacher and school board can do their bit toward the efficiency of our nation in times of peace and in times of war.
2077. Meek, Harry E. Supervision of the health of students or the human maintenance departments in schools, colleges, and universities. American physical education review, 22: 457-63, November 1917.  
Read before the Middle west society of physical education and hygiene at their fourth annual conference, Chicago, April 13, 1917.
2078. Morrison, Henry C. Medical inspection in New Hampshire. American journal of school hygiene, 1: 163-66, November 1917.

## PHYSICAL TRAINING.

2049. Garber, John P. How to organize and plan for physical training and give it its true place in the general scheme of education. *Mind and body*, 24: 815-21, November 1917.

Paper read before the annual meeting of the American physical education association held in Pittsburgh, April 2, 1917.

## SOCIAL ASPECTS OF EDUCATION.

2050. Mulock, Dinah Maria. How to train up a parent in the way he should go. *Pennsylvania school journal*, 66: 229-37, December 1917.

Some mistakes of parents and lessons they should learn on bringing up children.

2051. Nifenecker, Eugene A. The school assembly. A handbook for auditorium exercises. 1917. [114] p. 8°. (New York city. Department of education. Division of reference and research)

2052. Weintrob, Raleigh. The school building as a neighborhood center. *American school board journal*, 55: 38, 40-43, December 1917.

The development of Bunker Hill social center in Paterson, N. J.

## CHILD-WELFARE.

2053. Kirk, Sir John. This way and that way. *Child* (London) 8: 65-75, November 1917.

Progress of child welfare among the necessitous children of London.

2054. Rochester, Anna. Child labor in warring countries; a brief review of foreign reports. Washington, Govt. print. off., 1917. 5 p. 12°. (U. S. Children's bureau. Industrial series, no. 4. Bureau publication no. 27)

2055. Woodworth, Earl. The boy problem. *Northwest journal of education*, 29: 38-42, November 1917.

The physical, intellectual, emotional, and religious development of a boy.

## MORAL EDUCATION.

2056. Hughes, James L. Vital character training. *School bulletin*, 44: 22, September; 49-50, October; 55-56, November 1917.

To be continued.

Part I had title Training the child for power.

## RELIGIOUS EDUCATION.

2057. Athearn, Walter S. Religious education and American democracy. Boston, Chicago, The Pilgrim press [1917] 394 p. 12°.

Presents a constructive program for the religious education of the American people; critically analyzes the present situation and evaluates current movements. Complete bibliography.

2058. Burroughs, P. E. The present-day Sunday school; studies in its organization and management. New York, Chicago [etc.] F. H. Revell company [1917] 214 p. 12°.

2059. Gardiner, Frederic. Private schools; their special opportunity. *Religious education*, 12: 419-23, December 1917.

The opportunities for religious training especially.

## MANUAL AND VOCATIONAL TRAINING.

2060. National association of corporation schools. Fifth annual convention. Addresses, reports, bibliographies and discussions. Buffalo, N. Y., June 5-8, 1917. 893 p. 8°. (Lee Galloway, secretary, New York university, New York, N. Y.)

Contains: 1. A. C. Vinal: Vocational guidance, p. 129-37; Discussion, p. 141-69. 2. Report of committee on administration and supervision of corporation educational work, p. 174-89; Discussion, p. 190-231. 3. Report of the committee on education methods in corporation schools, p. 239-67. 4. Report of committee on trade apprenticeship schools, p. 353-95; Discussion, p. 396-409. 5. Report of committee on unskilled labor, 423-46; Discussion, p. 447-64. 7. Report of the committee on special training schools, p. 470-521. 8. Committee on corporation continuation schools, p. 568-609; Discussion, p. 610-30. 9. Report of committee on retail salesmanship, p. 702-21. 10. Report of committee on office work schools, p. 731-76; Discussion, p. 777-95. 11. Report of committee on public education, p. 806-29.

2061. Gibbons, Henry. Cadet schools of business. Forum, 58: 741-48, December 1917.

Work of corporation schools.

2062. Izor, Estelle Peel. The efficiency home. Industrial-arts magazine, 6: 473-76, December 1917. illus.

Tells of the specific problem studied for the past year by the classes of the Emmerich manual training high school of Indianapolis, Ind. These classes were organized under the vocational law of Indiana, which removes age limit and gives opportunity for women whose school days are over to take training in household management.

2063. Merchant, F. W. The war and industrial education in Canada. Manual training magazine, 19: 117-21, December 1917.

2064. Smith, K. G. The teaching of trades and industry under the Smith-Hughes act. Midland schools, 32: 108-11, December 1917.

The Iowa situation.

2065. U. S. Federal board for vocational education. Statement of policies. Washington, Government printing office, 1917. 70 p. 8°. (Bulletin no. 1)

## VOCATIONAL GUIDANCE.

2066. Hunter, Fred M. Vocational guidance. Sierra educational news, 13: 481-83, December 1917.

A plan for vocational guidance.

2067. Kelly, Roy Willmarth. Vocational guidance in the technical high school, Fall River, Mass. School and society, 6: 631-40, December 1, 1917.

The instruction of teachers, introduction of the study of occupations, placement and follow-up of pupils at work, educational and vocational advice to seniors, a study of the reasons for leaving school, a study of graduates who have attended higher institutions, attempts to adjust the work of the school to meet local industrial needs and to provide prevocational training.

2068. Woolley, Helen T. The vocational bureau of the public schools, Cincinnati, Ohio. Current education, 21: 300-302, November 1917.

Reprinted from the Vocational guidance bulletin.

The activities carried on by the vocation bureau of Cincinnati, Ohio.

## AGRICULTURAL EDUCATION.

2069. Blodgett, Frederick H. Departmental organization in agricultural teaching. School and society, 6: 668-72, December 8, 1917.

## COMMERCIAL EDUCATION.

2070. **Carlson, Paul A.** Part-time employment in the high school commercial course. *Wisconsin journal of education*, 49: 253-54, November 1917.  
Outlines a plan used in the commercial department of the Manitowoc high school, Wisconsin, by which the pupils work part time in local offices.
2071. **West, C. J.** Commercial arithmetic—the mathematics of business. *Ohio educational monthly*, 66: 525-30, December 1917.  
Suggestions for a high-school course in business mathematics.

## PROFESSIONAL EDUCATION.

2072. **American bar association.** Section on legal education. [Addresses delivered at the 1917 meeting] *American law school review*, 4: 289-304, 320-45, December 1917.  
Contains: 1. G. P. Costigan, jr.: The teaching of legal ethics, p. 290-96. 2. H. L. Carson: Suggestions as to a methodical study of English legal literature, p. 296-304. 3. F. C. Goddard: The bar examination—its proper time and place, p. 320-29. 4. T. R. Powell: Law as a cultural study, p. 330-38. 5. W. W. Cook: Improvement of legal education and of standards for admission to the bar, p. 338-45.
2073. **Association of American medical colleges.** Proceedings of the twenty-sixth annual meeting, held at Chicago, February 8, 1916. 117 p. 8°. (Fred C. Zapffe, secretary-treasurer, 3431 Lexington street, Chicago, Ill.)  
Contains: 1. C. R. Bardeen: Aims, methods, and results in medical education, p. 5-22. 2. Gordon Wilson: Medical education with reference to rural Maryland, p. 23-28. 3. F. H. McCrudden: The teaching of applied therapeutics, p. 29-42. 4. L. F. Barker: The teaching of clinical medicine, p. 43-57. 5. A. C. Stokes: Teaching of clinical surgery, p. 58-66. 6. H. W. Loeb: The municipal hospital as a factor in clinical teaching, p. 67-73; Discussion, p. 73-83.
2074. **Society for the promotion of engineering education.** Proceedings of the twenty-fourth annual meeting, held at University, Va., June 19-22, 1916. Vol. 24. Pittsburgh, Pa., 1916. 346 p. 8°. (F. L. Bishop, secretary, Pittsburgh, Pa.)  
Contains: 1. H. S. Jacoby: Some details in engineering education, p. 27-42. 2. C. R. Mann: Report of progress in the study of engineering education, p. 48-67; Discussion, p. 67-97. 3. C. M. Wirick: Report of committee on entrance requirements, p. 103-22; Discussion, p. 122-25. 4. P. F. Walker: Research as an element of the growth and progress of the school, p. 284-90; Discussion, p. 290-303. 5. A. A. Potter and M. R. Bowerman: Occupation and distribution of graduates from engineering colleges, p. 304-10. 6. C. C. Morris: A plea for the further study of efficient methods in the administration of an engineering college, p. 311-15.
2075. **Hammett, Frederick S.** Premedical training in chemistry. *Science*, n. s. 46: 504-6, November 1917.  
Says that the collegiate instructor has failed to appreciate the progressive utilization of chemistry by the biological sciences.
2076. **Swift, Walter B.** Speech correction—a new medical study and a new educational movement. *Boston medical and surgical journal*, 178: 811-13, December 6, 1917.  
Work of the speech clinics in Boston, embracing research in the pathology of speech, treatment of speech defects, and the training of public-school teachers in methods of speech correction.

## CIVIC EDUCATION.

2077. **Allen, William H.** Universal training for citizenship and public service. New York, The Macmillan company, 1917. 281 p. 12°.



2078. **California. Commission of immigration and housing.** A discussion of methods of teaching English to adult foreigners, with a report on Los Angeles county. Sacramento, California state printing office, 1917. 40 p. 1 fold. pl. 12°.
2079. ———. Report on an experiment made in Los Angeles in the summer of 1917 for the Americanization of foreign-born women. Sacramento, California state printing office, 1917. 24 p. 12°.
2080. **Davis, Thomas J.** Schools that reach the homes of immigrants. American city, 17: 511-16, December 1917.  
A popular illustrated article.
2081. **Deyoe, Albert M.** Making an American. Midland schools, 32: 111-16, December 1917.  
Annual address by the superintendent of public instruction of Iowa before the Iowa state teachers' association, November 3, 1917.  
The public schools as the training camps for American citizenship.
2082. **Harvey, L. D.** The school's opportunity in the development of loyal American citizenship. American school, 3: 328-30, November 1917.  
Also in Wisconsin journal of education, 49: 245-49, November 1917.
2083. **Judd, Charles H.** Education and the national spirit. Nation, 105: 661-62, December 13, 1917.  
Discusses the work of the U. S. Bureau of education and the Food administration in bringing to the public schools a series of lessons on Community and national life.

#### SCHOOLS FOR MAIMED SOLDIERS.

2084. **Paeuw, Léon de.** La rééducation professionnelle des soldats mutilés et estropiés . . . avec une lettre-préface de M<sup>me</sup>. Henry Carton de Wiart. Paris [etc.] Librairie militaire Berger-Levrault, 1917. 245 p. plates. 16°.
2085. **Singh, Saint Nihal.** Vocations for blind soldiers. Southern workman, 46: 671-82, December 1917.  
Work of the Blind soldiers' and sailors' care committee, England.

#### EDUCATION OF WOMEN.

2086. **Cockerell, T. D. A.** War work of college women in the West. School and society, 6: 699-705, December 15, 1917.  
Given before the University of Colorado scientific society, October 29, 1917.
2087. **Thornton, William M.** Collegiate education for women by the State. Alumni bulletin of the University of Virginia, 10: 317-27, August-October 1917.  
The neglect of collegiate education for women in Virginia and a plea for the coordinate college.

#### NEGRO EDUCATION.

2088. **Abbott, Lyman.** Can the negro be educated? Outlook, 117: 602-604, December 12, 1917.  
An elaborate study of the report on negro education, published by the U. S. Bureau of education.
2089. **Loram, Charles T.** The education of the South African native. London, New York [etc.] Longmans, Green, and co., 1917. xx. 340 p. 12°.  
Writer is an inspector of schools in Natal, and was formerly a fellow in education at Teachers college, Columbia university. During his stay in the United States, he made a direct study of various Negro schools in the South, and incorporates the results of his investigations in this book for their bearing on the African work.

#### EDUCATION OF DEAF.

2090. **Pintner, Rudolf and Paterson, Donald G.** Psychological tests of deaf children. Volta review, 19: 661-67, December 1917.  
Introductory chapter to a book on the psychology of the deaf. Bibliography.

## EXCEPTIONAL CHILDREN.

2091. **Burnell, Elizabeth Frayer.** Instruction in mathematics for gifted pupils. Pedagogical seminary, 24: 569-83, December 1917.  
Bibliography: p. 582-83.  
An investigation carried out under the direction of Prof. Charles S. Berry, at the University of Michigan, in 1917.  
Shows first the provision of our public school system for students of unusual mental ability, and then, how instruction in mathematics may be revised in classes of gifted children.
2092. **McMillan, Margaret.** The camp school. London, George Allen & Unwin, ltd., 1917. 178 p. front. 12°.  
"Sets forth the record of a series of experiments which had as their object the removal of the disabilities that come to the children of poverty and make even the best teaching difficult, or even impossible."
2093. **Slingerland, W. H.** Education and training of dependent children. Religious education, 12: 408-14, December 1917.  
A few suggestions on the ethical and religious training, general education, and vocational training of the 150,000 dependent children now in orphanages, children's homes and special institutions.
2094. **Wallin, J. E. Wallace.** Feeble-mindedness and delinquency. Mental hygiene, 1: 585-90, October 1917.  
Study based on examination of 1,863 different cases in the psycho-educational clinic conducted by the board of education, St. Louis, Mo.

## EDUCATION EXTENSION.

2095. **Keith, B. F.** The educational value of seeing America. Kansas journal of education, 12: 3, 7, November 27, 1917.  
Also in Missouri journal of education, 2: 3, 7, November 27, 1917.
2096. **Nalder, F. F.** A notable community service. Journal of education, 86: 487-89, November 15, 1917.  
How university extension classes serve California people.

## LIBRARIES AND READING.

2097. **Gruenberg, Sidonie Matzner.** Reading for children. Dial, 63: 575-77, December 6, 1917.
2098. **Hitchler, Theresaa.** Library school training versus practical experience. Library journal, 42: 931-33, December 1917.  
An address delivered in part before a meeting of the Connecticut library association, June 4, 1917.
2099. **Pence, Raymond W.** Chats with students about books. English journal, 6: 677-85, December 1917.  
Writer's attempt to stimulate the interest of freshmen in general reading. Contains a bibliography.

## BUREAU OF EDUCATION: RECENT PUBLICATIONS.

2100. Accredited higher institutions; by Samuel Paul Capen. Washington, 1917. 79 p. (Bulletin, 1917, no. 17)
2101. A comparison of the salaries of rural and urban superintendents of schools, compiled by A. C. Monahan and C. H. Dye. Washington, 1917. 68 p. (Bulletin, 1917, no. 33)
2102. Institutions in the United States giving instruction in agriculture, 1915-16; comp. by A. C. Monahan and C. H. Dye. Washington, 1917. 115 p. (Bulletin, 1917, no. 34)
2103. Lessons in community and national life. Washington, 1918. 3 pamphlets. 32 p. each. (Community leaflets, nos. 10-12)  
National control and food conservation.

2104. Open-air schools; by Sherman C. Kingsley and F. B. Dresslar. Washington, 1917. 283 p. illus. (Bulletin, 1916, no. 23)
2105. Practice teaching for teachers in secondary schools. Washington, 1917. 82 p. (Bulletin, 1917, no. 29)
2106. The public school system of San Francisco, California. A report to the San Francisco board of education of a survey made under the direction of the United States Commissioner of education. Washington, 1917. 649 p. (Bulletin, 1917, no. 46)
2107. Report of the Commissioner of education for the year ended June 30, 1917. Volume 1. Washington, 1917. 102 p.  
CONTENTS.—Commissioner's introduction.—I. Education and the war.—II. Educational surveys.—III. General activities of the bureau.—IV. Educational conditions in the other warring nations.—V. Recommendations.
2108. Statement of the Commissioner of education to the Secretary of the interior for the fiscal year ended June 30, 1917. Washington, 1917. 29 p.

**PERIODICALS REPRESENTED IN THIS RECORD, OCTOBER, 1917—  
JANUARY, 1918.**

- Alumni Bulletin of the University of Virginia, Charlottesville, Va.  
Alumni Register (University of Pennsylvania), Burlington, N. J.  
America, 59 East Eighty-third Street, New York, N. Y.  
American Annals of the Deaf, 2419-2421 Greenmount Avenue, Baltimore, Md.  
American City, 93 Nassau Street, New York, N. Y.  
American Education, 50 State Street, Albany, N. Y.  
American Journal of Care for Cripples, 3505 Broadway, New York, N. Y.  
American Journal of Nursing, 2419-2421 Greenmount Avenue, Baltimore, Md.  
American Journal of Psychology, Clark University, Worcester, Mass.  
American Journal of Public Health, 289 Fourth Avenue, New York, N. Y.  
American Journal of School Hygiene, Worcester, Mass.  
American Law School Review, West Publishing Co., St. Paul, Minn.  
American Magazine, 381 Fourth Avenue, New York, N. Y.  
American Penman, 30 Irving Place, New York, N. Y.  
American Physical Education Review, 93 Westford Avenue, Springfield, Mass.  
American Review of Reviews, 30 Irving Place, New York, N. Y.  
American School, P. O. box 134, Milwaukee, Wis.  
American School Board Journal, 354 Milwaukee Street, Milwaukee, Wis.  
American Schoolmaster, State Normal College, Ypsilanti, Mich.  
Arkansas Teacher, Conway, Ark.  
Associate Teacher, Pierre, S. Dak.  
Athenaeum, London, England.  
Atlantic Educational Journal, 19 West Saratoga Street, Baltimore, Md.  
Bookman, Fourth Avenue and Thirtieth Street, New York, N. Y.  
Boston Medical and Surgical Journal, 101 Tremont Street, Boston, Mass.  
Bulletin, American Home Economics Association, Station N, Baltimore, Md.  
Bulletin of High Points, Board of Education Building, New York, N. Y.  
Bulletin of the Board of Education of the Methodist Episcopal Church South, Nashville, Tenn.  
Bulletin of the Pan American Union, Washington, D. C.  
Business Educator, Columbus, Ohio.  
California Taxpayers' Journal, Los Angeles, Cal.  
Catholic Educational Association Bulletin, 1651 East Main Street, Columbus, Ohio.  
Catholic Educational Review, Washington, D. C.  
Catholic School Journal, Milwaukee, Wis.  
Catholic World, 120-122 West Sixtieth Street, New York, N. Y.

- Century Magazine, 353 Fourth Avenue, New York, N. Y.  
 Child, London, England.  
 Child Labor Bulletin, 105 East Twenty-second Street, New York, N. Y.  
 Child-Welfare Magazine, 227 South Sixth Street, Philadelphia, Pa.  
 Chinese Students' Monthly, Ashburnham, Mass.  
 Classical Journal, University of Chicago Press, Chicago, Ill.  
 Classical Weekly, Barnard College, New York, N. Y.  
 Colorado School Journal, Denver, Colo.  
 Columbia University Quarterly, Columbia University, New York, N. Y.  
 Contemporary Review, 249 West Thirteenth Street, New York, N. Y.  
 Current Education, Philadelphia, Pa.  
 Dial, 608 South Dearborn Street, Chicago, Ill.  
 Education, 120 Boylston Street, Boston, Mass.  
 Education, Paris, France.  
 Education Bulletin, Trenton, N. J.  
 Educational Administration and Supervision, Warwick and York, Baltimore, Md.  
 Educational Bi-Monthly, Board of Education, Chicago, Ill.  
 Educational Review, Columbia University, New York, N. Y.  
 Educational Standards, Charlestown, Mass.  
 Educator-Journal, 408 Newton Claypool Building, Indianapolis, Ind.  
 Elementary School Journal, University of Chicago press, Chicago, Ill.  
 Engineering Education, Lancaster, Pa.  
 English Journal, University of Chicago press, Chicago, Ill.  
 English Leaflet, New England association of teachers of English, Newtonville, Mass.  
 Florida Schoolroom, Dade City, Fla.  
 Forum, 32 West Fifty-eighth Street, New York, N. Y.  
 Free Poland, Washington, D. C.  
 General Science Quarterly, Salem, Mass.  
 Geographical Teacher, London, England.  
 Good Housekeeping Magazine, 119 West Fortieth Street, New York, N. Y.  
 La Grande Revue, Paris, France.  
 Harvard Graduates' Magazine, Exchange Building, Boston, Mass.  
 Harvard Theological Review, Harvard University, Cambridge, Mass.  
 High School Quarterly, Athens, Ga.  
 History Teacher's Magazine, McKinley Publishing Co., Philadelphia, Pa.  
 Hospital School Journal, Detroit, Mich.  
 Illinois Association of Teachers of English Bulletin, Urbana, Ill.  
 Independent, 119 West Fortieth Street, New York, N. Y.  
 Indiana Instructor, 607 Occidental Building, Indianapolis, Ind.  
 Industrial-Arts Magazine, 129 Michigan Street, Milwaukee, Wis.  
 Inter-America, Doubleday, Page & Co., New York, N. Y.  
 Inter-Mountain Educator, Missoula, Mont.  
 Iron Age, 239 West Thirty-ninth Street, New York, N. Y.  
 Journal of Applied Psychology, Worcester, Mass.  
 Journal of Delinquency, Whittier State School, Whittier, Cal.  
 Journal of Education, 6 Beacon Street, Boston, Mass.  
 Journal of Education, London, England.  
 Journal of Education of the Academy of the New Church, Bryn Athyn, Pa.  
 Journal of Educational Psychology, Warwick and York, Baltimore, Md.  
 Journal of Geography, Madison, Wis.  
 Journal of Home Economics, Station N, Baltimore, Md.  
 Journal of Psycho-Asthenics, Fairbault, Minn.

- Journal of the American Medical Association, 535 Dearborn Street, Chicago.
- Journal of the American Osteopathic Association, New York, N. Y.
- Journal of the Association of Collegiate Alumnae, University of Chicago press, Chicago, Ill.
- Journal of the New York State Teachers' Association, 5 South Water Street, Rochester, N. Y.
- Kansas Journal of Education, Kansas City, Kans.
- Kentucky High School Quarterly, Lexington, Ky.
- Kindergarten and First Grade, Springfield, Mass.
- Labor Clarion, San Francisco, Cal.
- Library Journal, 241 West Thirty-seventh Street, New York, N. Y.
- Louisiana School Work, Baton Rouge, La.
- Manual Arts Bulletin, Minneapolis, Minn.
- Manual Training Magazine, Manual Arts Press, Peoria, Ill.
- Mathematics Teacher, 41 North Queen Street, Lancaster, Pa.
- Mental Hygiene, Concord, N. H.
- Middle West School Review, Omaha, Nebr.
- Midland Schools, Des Moines, Iowa.
- Mind and Body, Milwaukee, Wis.
- Missouri Journal of Education, Kansas City, Mo.
- Moderator-Topics, Lansing, Mich.
- Modern Language Journal, Sixty-eighth Street and Park Avenue, New York, N. Y.
- Monatshefte für Deutsche Sprache und Pädagogik, Milwaukee, Wis.
- Mother's Magazine, David C. Cook Publishing Co., Elgin, Ill.
- Musical Quarterly, 3 East Forty-third Street, New York, N. Y.
- Nation, 20 Vesey Street, New York, N. Y.
- National Association of Corporation Schools Bulletin, Irving Place and Fifteenth Street, New York, N. Y.
- National Municipal Review, North American Building, Philadelphia, Pa.
- Nature, London, England.
- Nebraska Teacher, Lincoln, Nebr.
- New Republic, 421 West Twenty-first Street, New York, N. Y.
- Nineteenth Century and After, 249 West Thirteenth Street, New York, N. Y.
- Normal Instructor and Primary Plans, Dansville, N. Y.
- North American Review, 171 Madison Avenue, New York, N. Y.
- North Carolina Education, Raleigh, N. C.
- Northwest Journal of Education, Seattle, Wash.
- Nuova Antologia, Rome, Italy.
- Ohio Educational Monthly, Columbus, Ohio.
- Ohio Teacher, Columbus, Ohio.
- Old Penn, University of Pennsylvania, Philadelphia, Pa.
- Oregon Teachers' Monthly, Salem, Oreg.
- Outlook, 287 Fourth Avenue, New York, N. Y.
- Pedagogical Seminary, Worcester, Mass.
- Pennsylvania School Journal, Lancaster, Pa.
- Pittsburgh School Bulletin, Pittsburgh, Pa.
- Playground, 1 Madison Avenue, New York, N. Y.
- Popular Educator, 50 Bromfield Street, Boston, Mass.
- Progressive Teacher, Nashville, Tenn.
- Psychoanalytic Review, 41 North Queen Street, Lancaster, Pa.
- Psychological Bulletin, Princeton, N. J.
- Psychological Clinic, Woodland Avenue and Thirty-sixth Street, Philadelphia, Pa.

- Psychological Review, Princeton, N. J.  
 Public Servant, Madison, Wis.  
 Quarterly Journal of Public Speaking, Menasha, Wis.  
 Quarterly Journal of the University of North Dakota, University, N. Dak.  
 Quarterly Review, London, England.  
 Recalled to Life, London, England.  
 Reclamation Record, Washington, D. C.  
 Religious Education, 1030 East Fifty-fifth Street, Chicago, Ill.  
 La Revue, Paris, France.  
 Revue des Deux Mondes, Paris, France.  
 Revue Internationale de l'Enseignement, Paris, France.  
 Revue Pédagogique, Paris, France.  
 Revue Universitaire, Paris, France.  
 Rivista Pedagogica, Rome, Italy.  
 Rural Manhood, 124 East Twenty-eighth Street, New York, N. Y.  
 Rural School Messenger, Kirksville, Mo.  
 School, 154 Fifth Avenue, New York, N. Y.  
 School, Toronto, Canada.  
 School and Home, Atlanta, Ga.  
 School and Home Education, Bloomington, Ill.  
 School and Society, The Science Press, Garrison, N. Y.  
 School Bulletin, Syracuse, N. Y.  
 School Education, Minneapolis, Minn.  
 School Guardian, London, England.  
 School Hygiene, London, England.  
 School Music, Keokuk, Iowa.  
 School News and Practical Educator, Taylorville, Ill.  
 School News of New Jersey, New Egypt, N. J.  
 School Review, University of Chicago Press, Chicago, Ill.  
 School Science and Mathematics, Mount Morris, Ill.  
 School World, London, England.  
 Schooling, Sydney, New South Wales.  
 Science, The Science Press, Garrison, N. Y.  
 Sierra Educational News, San Francisco, Cal.  
 Southern School Journal, Lexington, Ky.  
 Southern Workman, Hampton, Va.  
 Survey, 105 East Twenty-second Street, New York, N. Y.  
 Teachers' College Record, Teachers' College, Columbia University, New York, N. Y.  
 Teaching, Emporia, Kans.  
 Texas School Journal, Dallas, Tex.  
 Trained Nurse and Hospital Review, 38-40 West Thirty-second Street, New York, N. Y.  
 University Record, University of Chicago Press, Chicago, Ill.  
 Virginia Journal of Education, Richmond, Va.  
 Vision, Bureau of Commercial Economics, Washington, D. C.  
 Volta Review, Volta Bureau, Washington, D. C.  
 Vor Ungdom, Copenhagen, Denmark.  
 West Virginia School Journal and Educator, Charleston, W. Va.  
 Western Journal of Education, San Francisco, Cal.  
 Western Teacher, Milwaukee, Wis.  
 Winona Normal Bulletin, Winona, Minn.  
 Wisconsin Journal of Education, Madison, Wis.

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 2

GUIDE TO UNITED STATES  
GOVERNMENT PUBLICATIONS

COMPILED BY

WALTER I. SWANTON



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# GOVERNMENT OF THE UNITED STATES

## LEGISLATIVE BRANCH CONGRESS

## EXECUTIVE BRANCH THE PRESIDENT

## JUDICIAL BRANCH SUPREME COURT

### SENATE

96 SENATORS

**HOUSE OF REPRESENTATIVES**  
435 REPRESENTATIVES:  
2 DELEGATES,  
3 COMMISSIONERS.

### I. DEPARTMENT OF STATE

DIPLOMATIC SERVICE.  
DIVISION OF WESTERN EUROPEAN AFFAIRS.  
DIVISION OF FAR EASTERN AFFAIRS.  
DIVISION OF NEAR EASTERN AFFAIRS.  
CONSULAR SERVICE.  
DIVISION OF LATIN-AM. AFFAIRS.  
DIVISION OF MEXICAN AFFAIRS.  
BUREAU OF CITIZENSHIP.

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TREASURER OF THE UNITED STATES.  
BUREAU OF THE MINT.  
COMPTROLLER OF THE TREASURY.  
MINTERS FOR DEPARTMENTS.  
MINTERS OF THE TREASURY.  
FEDERAL FARM LOAN BUREAU.  
BUREAU OF ENGRAVING & PRINTING.  
BUREAU OF PUBLIC HEALTH SERVICE.  
COAST GUARD (NAVY).  
SUPERVISING ARCHITECT'S OFFICE.  
BUREAU OF WAR-RISK INSURANCE.  
GENERAL SUPPLY COMMITTEE.

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WAR COLLEGE DIVISION.  
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OFFICE OF CHIEF OF COAST ARTILLERY.  
OFFICE OF JUDGE ADVOCATE GENERAL.  
OFFICE OF INSPECTOR GENERAL.  
OFFICE OF ADJUTANT GENERAL.  
OFFICE OF PROVOST MARSHAL GEN'L.  
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OFFICE OF CHIEF SIGNAL OFFICER.  
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ATTORNEY IN CHARGE OF TITLES.  
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SUPERINTENDENT OF PRISONS.

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DIV. OF EQUIPMENT & SUPPLIES.  
TOPOGRAPHY BRANCH.

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COURT OF CLAIMS.  
COURT OF CUSTOMS APPEALS.  
DIST. OF COL. COURTS.  
TERRITORIAL COURTS.

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OFFICE OF NAVAL OPERATIONS.  
OFFICE OF NAVAL INTELLIGENCE.  
COMMUNICATION SERVICE.  
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INSPECTION AND SURVEY.  
COAST GUARD (NAVY WAR).  
AVIATION SECTION.  
BUREAU OF NAVIGATION.  
HYDROGRAPHIC OFFICE.  
NAVAL OBSERVATORY.  
NAVAL MILITIA.  
NAVAL RESERVE.  
BUREAU OF CONSTRUCTION & REPAIR.  
BUREAU OF SUPPLIES AND ACCOUNTS.  
BUREAU OF MEDICINE & SURGERY.  
BUREAU OF STEAM ENGINEERING.  
BUREAU OF YARDS AND DOCKS.  
BUREAU OF ORDNANCE.  
BARRING CORPS.

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ST. ELIZABETH'S HOSPITAL.  
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GENERAL LAND OFFICE.  
OFFICE OF INDIAN AFFAIRS.  
BUREAU OF PENSIONS.  
PATENT OFFICE.  
BUREAU OF EDUCATION.  
GEOLOGICAL SURVEY.  
RECLAMATION SERVICE.  
BUREAU OF MINES.  
NATIONAL PARK SERVICE.

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WEATHER BUREAU.  
BUREAU OF ANIMAL INDUSTRY.  
BUREAU OF PLANT INDUSTRY.  
FOREST SERVICE.  
BUREAU OF CHEMISTRY.  
BUREAU OF SOILS.  
BUREAU OF ENTOMOLOGY.  
BUREAU OF BIOLOGICAL SURVEY.  
BUREAU OF CROP ESTIMATION.  
STATES RELATIONS SERVICE.  
BUREAU OF PUBLIC ROADS.  
BUREAU OF MARKETS.  
INSECTICIDE AND FUNGICIDE BOARD.  
FEDERAL HORTICULTURAL BOARD.  
DIVISION OF PUBLICATIONS.

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BUREAU OF FOREIGN & DOMESTIC COM.  
BUREAU OF STANDARDS.  
BUREAU OF FISHERIES.  
BUREAU OF LIGHTHOUSES.  
COAST AND GEODETIC SURVEY.  
BUREAU OF NAVIGATION.  
STEAMBOAT-INSPECTION SERVICE.

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BUREAU OF INVESTIGATION.  
BUREAU OF NATURALIZATION.  
BUREAU OF LABOR STATISTICS.  
CHILDREN'S BUREAU.  
CHILD LABOR DIVISION.  
NATIONAL WAR LABOR BOARD.  
BUREAU OF HOUSING.

### XI. INDEPENDENT ESTABLISHMENTS

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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, January 8, 1918.*

SIR: The executive departments of the Federal Government have in recent years taken a more important place in the life of the country and consequently in the interest of the people than they formerly had. To such an extent have their functions increased that no intelligent conception of the contemporary life of the Nation can be formed without some knowledge of their organization and work. It is also very desirable that the people of the country should be informed as to the nature of the many valuable publications which the departments issue so that they may know how to obtain most expeditiously reliable information on the subjects treated in these reports. That information in regard to the organization and functions of the departments and the nature of their publications may be available for the use of schools and colleges and of chambers of commerce, women's clubs, and other similar organizations, I have caused to be prepared the manuscript which I am transmitting herewith for publication as a bulletin of the Bureau of Education.

Respectfully submitted,

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

# GUIDE TO UNITED STATES GOVERNMENT PUBLICATIONS.

## INTRODUCTION.

This Bulletin is divided into 11 parts, one for each of the 10 executive departments of the Government and one part for the miscellaneous important independent bureaus and commissions. Each part is divided into sections, one for each of the bureaus under the department considered, and the description is given in most instances in the following order: Principal administrative officials, general information and duties, general publications, method of distribution of general publications, annual and other periodical publications, lists, indexes, mailing lists, maps, and correspondence. At the beginning of each part is a brief description of the department considered.

The material for the Bulletin was furnished by each department, bureau, or independent office or commission, in response to a circular sent from the Bureau of Education, and it is desired to express appreciation for the hearty cooperation manifested in the replies received.

## THE WHITE HOUSE.

(Pennsylvania Avenue, between Fifteenth and Seventeenth Streets.)

## THE PRESIDENT OF THE UNITED STATES.

The only publications distributed from the White House are the President's Messages to Congress, and the President's Proclamations. They are for free distribution and may be obtained by addressing the Secretary to the President of the United States.

## COMMITTEE ON PUBLIC INFORMATION.

*Principal administrative officials.*—Secretary of State; Secretary of War; Secretary of the Navy; Chairman of the Committee; Editor of "Official Bulletin." The work of the committee is carried on in the United States and in foreign countries through the activities of about 25 divisions.

*General information and duties.*—The Committee on Public Information was organized under Executive Order of April 14, 1917, and is directly under the President of the United States. The purpose of this committee is to furnish reliable information and to issue an official daily bulletin and such additional bulletins, films, posters, pictures, and publications as may seem desirable.

*General publications.*—The following general publications have been issued:

### RED, WHITE, AND BLUE SERIES.

1. How the War Came to America.
2. National Service Handbook. 15 cents.
3. The Battle Line of Democracy. 15 cents.
4. The President's Flag Day Address with Evidence of Germany's Plans.
5. Conquest and Kultur.
6. German War Practices. (Part I—Treatment of Civilians.)
7. War Cyclopedia: A Handbook for Ready Reference on the Great War. 25 cents.

8. German Treatment of Conquered Territory. (Part II—of German War Practices.)
9. War, Labor, and Peace. (Some Recent Addresses and Writings of the President.)
10. German Plots and Intrigues. Activities of the German System in the United States during the Period of our Neutrality.

#### WAR INFORMATION SERIES.

101. The War Message and Facts Behind It.
102. The Nation in Arms.
103. The Government of Germany.
104. The Great War: From Spectator to Participant.
105. A War of Self-Defense.
106. American Loyalty.
107. Amerikanische Buergetreue. (German Translation of No. 106.)
108. American Interest in Popular Government Abroad.
109. Home Reading Course for Citizen Soldiers.
110. First Session of the War Congress.
111. The German War Code.
112. American and Allied Ideals.
113. German Militarism and Its German Critics.
114. The War for Peace.
115. Why America Fights Germany.
116. The Study of the Great War.
117. The Activities of the Committee on Public Information.

#### LOYALTY LEAFLETS.

201. Friendly Words to the Foreign Born.
202. The Prussian System.
203. Labor and the War.
204. A War Message to the Farmer.
205. Plain Issues of the War.
206. Ways to Serve the Nation.
207. What Really Matters.

"The Kaiserite in America."

Catalogue of Photographs and Stereopticon Slides, issued by the Division of Pictures.

*Method of distribution of general publications.*—These publications are, so far as issued, for free distribution except as noted. Copies may be obtained from the committee as long as editions printed are available.

*Annual and other periodical publications.*—The Committee on Public Information has not issued any annual report but there is printed a daily "Official Bulletin" which is sent free to officials of all Government departments; to the members of the United States Senate and House of Representatives; members of the American diplomatic and consular service; the foreign diplomatic and consular service; officers of the Army and Navy; every post office in the United States (to be posted daily); governors of all States; mayors of all cities; all daily newspapers and press associations of the country; all magazines; colleges and universities; chambers of commerce and boards of trade; and other public institutions. Regular subscription to others \$5.00 per year.

*Correspondence.*—Requests for general publications should be addressed to the Distribution Department, 6 Jackson Place. Requests for the "Official Bulletin" should be addressed to Editor, Official Bulletin, 16 Jackson Place, Washington, D. C.

#### SERVICE BUREAU.

The committee has established this bureau to give necessary information concerning Government work to those who have business with the Governmental agencies in Washington. The bureau is located at the corner of Fifteenth and G Streets NW., Washington, D. C.

## PART I.—DEPARTMENT OF STATE.

(For location of department, bureaus, etc., see page 186.)

*Principal administrative officials.*—Secretary of State; Counselor for the Department of State; the Assistant Secretary; Second Assistant Secretary; Third Assistant Secretary; Director of the Consular Service; Chief Clerk; Solicitor, Acting Foreign Trade Adviser; Adviser on Commercial Treaties; Chiefs: Bureau of Accounts and Disbursing Clerk, Bureau of Citizenship, Consular Bureau, Diplomatic Bureau, Bureau of Appointments, Indexes and Archives, Rolls and Library, Division of Eastern Affairs, Division of Foreign Intelligence, Division of Latin-American Affairs, Division of Mexican Affairs, Division of Near Eastern Affairs, Division of Western European Affairs; Assistant Solicitors (5); Private Secretary to the Secretary of State.

*General information and duties.*—The Secretary of State is charged, under the direction of the President, with the duties appertaining to correspondence with the public ministers and the consuls of the United States, and with the representatives of foreign powers accredited to the United States; and to negotiations of whatever character relating to the foreign affairs of the United States. He is also the medium of correspondence between the President and the chief executives of the several States of the United States; he has the custody of the Great Seal of the United States, and countersigns and affixes such seal to all executive proclamations, to various commissions, and to warrants for the extradition of fugitives from justice. He is regarded as the first in rank among the members of the cabinet. He is also the custodian of the treaties made with foreign States, and of the laws of the United States. He grants and issues passports, and exequaturs to foreign consuls in the United States are issued through his office. He publishes the laws and resolutions of Congress, amendments to the Constitution, and proclamations declaring the admission of new States into the Union.

The Counselor becomes the Acting Secretary of State in the absence of the secretary. He is charged with the supervision of such matters and the preparation of such correspondence as may be assigned to him by the secretary.

Under the organization of the department the Assistant Secretary, Second Assistant Secretary, and Third Assistant Secretary are charged with the supervision of all correspondence with the diplomatic and consular officers, and are intrusted with the preparation of the correspondence upon any questions arising in the course of the public business that may be assigned to them by the secretary.

The Director of the Consular Service is charged with the general supervision of the consular service and such other duties as may be assigned to him from time to time by the secretary.

The Chief Clerk has general supervision of the clerks and employees and of departmental matters; and also charge of the property of the department.

The Foreign Trade Adviser has general supervision of foreign trade matters, diplomatic and consular correspondence, and miscellaneous correspondence relating thereto.

The Diplomatic Bureau handles diplomatic correspondence and miscellaneous correspondence relating thereto.

The Division of Latin-American Affairs handles diplomatic and consular correspondence on matters other than those of an administrative character, in relation to Mexico.

The Division of Far Eastern Affairs handles diplomatic and consular correspondence, on matters other than those of an administrative character, in relation to Japan, China, and leased territories, Siberia, Hongkong, French Indo-China, Siam, Straits Settlements, Borneo, East Indies, India, and in general the Far East.

The Division of Near Eastern Affairs handles diplomatic and consular correspondence, on matters other than those of an administrative character, in re-

latlon to Germany, Austria-Hungary, Russia, Roumania, Servia, Bulgaria, Montenegro, Turkey, Greece, Italy, Abyssinia, Persia, Egypt, and colonies belonging to countries of this series.

The Division of Western European Affairs handles diplomatic and consular correspondence, on matters other than those of an administrative character, in relation to Great Britain (Canada, Australia, New Zealand, and British colonies not elsewhere enumerated), Portugal, Spain, France, Morocco, Belgium, the Kongo, Switzerland, Norway, Sweden, the Netherlands, Luxemburg, Denmark, and Liberia.

The Consular Bureau handles consular correspondence and miscellaneous correspondence relating thereto.

The Bureau of Appointments is charged with custody of the Great Seal and handles applications for office, and the preparation of commissions, exequaturs, warrants of extradition, Department Register, consular bonds; correspondence and other matters regarding entrance examinations for the foreign service.

The Bureau of Citizenship examines all applications for passports, issues passports and authentications; receives and files duplicates of evidence, registration, etc., under act of March 2, 1907, in reference to expatriation of citizens and their protection abroad; keeps necessary records thereunder; conducts correspondence in relation to the foregoing.

The Bureau of Indexes and Archives records and indexes the general correspondence of the department and has charge of the archives.

The Bureau of Accounts has custody and disbursement of appropriations and indemnity funds, and correspondence relating thereto.

The Bureau of Rolls and Library has custody of the rolls, treaties, etc.; promulgation of the laws, treaties, Executive orders, and proclamations; care and superintendence of the library and public documents; care of papers relating to international commissions.

The Division of Foreign Intelligence prepares and distributes to the foreign service of diplomatic, commercial, and other correspondence and documents important to their information upon foreign relations; editing "Foreign Relations" of the United States.

The Office of the Law Clerk edits and indexes the laws, resolutions, public treaties, and proclamations for publication in the Statutes at Large.

The Superintendent of the State, War, and Navy Department Building is the executive officer of the commission created by Congress, consisting of the Secretaries of State, War, and Navy, for the government of this building. He has charge of, care, preservation, repairing, warming, ventilating, lighting, and cleaning of the building, grounds, and approaches, and disburses the special appropriations for this purpose; he has charge of all the employees of the building proper, and appoints them by direction of the secretaries.

*Publications.*—The following publications of the State Department are available for general or limited distribution as indicated: (a) Foreign Relations of the United States. A compilation of the diplomatic correspondence with foreign countries. Printed and distributed as a congressional document. Last edition covers correspondence of the year 1910.

(b) Register of the Department of State. List of officers, clerks, and employees of the department in Washington and the foreign service, including the Diplomatic and Consular Service. List of foreign representatives in the United States. Issued annually. Limited distribution by the department.

(c) Diplomatic and Consular Service of the United States. List of diplomatic and consular officials. Issued at irregular intervals. Limited distribution by the department.

(d) Diplomatic List. Containing the diplomatic officials and families of foreign missions in Washington. Issued monthly. Limited distribution by the department.

(e) Information Regarding Appointments and Promotions in the Consular Service of the United States. Distributed by the department upon request.

(f) Information Regarding Appointments and Promotions in the Diplomatic Service of the United States. Distributed by the department upon request.

(g) Rules Governing the Granting and Issuing of Passports in the United States. Distributed free by the Bureau of Citizenship.

*Correspondence.*—Requests for these publications should be sent to the Chief Clerk, State Department, Washington, D. C. A price list of congressional and other publications on foreign relations can be obtained by application to the Superintendent of Documents, Government Printing Office, Washington, D. C.



## PART II.—DEPARTMENT OF THE TREASURY.

(For location of department, bureaus, etc., see page 186.)

### OFFICE OF SECRETARY.

*Principal administrative officials.*—Secretary of the Treasury; Assistant Secretary, in charge of Public Buildings and Miscellaneous; Assistant Secretary, in charge of Fiscal Bureaus; Assistant Secretary, in charge of Customs; Assistant to the Secretary; Chief Clerk; Chiefs: Division of Appointments, Division of Bookkeeping and Warrants, Division of Customs, Division of Loans and Currency, Division of Mail and Files, Division of Printing and Stationery, Division of Public Moneys, Division of Secret Service; Disbursing Clerk; Section of Surety Bonds.

*General information and duties.*—The Secretary of the Treasury is charged with the management of the national finances. He prepares plans for the improvement of the revenue and for the support of the public credit; superintends the collection of the revenue, and directs the forms of keeping and rendering public accounts and of making returns; grants warrants for all moneys drawn from the Treasury in pursuance of appropriations made by law, and for the payment of moneys into the Treasury; and annually submits to Congress estimates of the probable revenues and disbursements of the Government. He controls the construction and maintenance of public buildings; the coinage and printing of money; the administration of the Coast Guard and the Public Health branches of the public service, and furnishes generally such information as may be required by either branch of Congress on all matters pertaining to the foregoing. He is ex officio chairman of the Federal Reserve Board, created by act approved December 23, 1913; ex officio chairman of the Federal Farm Loan Board, created by act approved July 17, 1916; president of the central executive council of the International High Commission, and chairman of the United States section of that commission; appointed Director-General of Railroads by the President, December 26, 1917.

The Assistant Secretary in charge of miscellaneous divisions of the Treasury Department is assigned the general supervision of matters relating to the following bureaus and divisions: Public Health Service, Supervising Architect, the selection of sites for public buildings, Coast Guard, Appointment Division, General Supply Committee, Section of Surety Bonds, and all unassigned business of the department.

The Assistant Secretary in charge of fiscal bureaus is assigned the general supervision of all matters relating to the following bureaus, offices, and divisions: The Federal Farm Loan Board, the Office of the Comptroller of the Currency, the Office of the Treasurer of the United States; the Bureau of Internal Revenue; the Office of the Director of the Mint; the Office of the Comptroller of the Treasury; the auditors of the several departments; the Register of the Treasury; the Bureau of Engraving and Printing; the Division of Bookkeeping and Warrants; the Division of Loans and Currency; the Division of Mail and Files; the Division of Printing and Stationery; the Division of Public Moneys; the Secret Service Division; and the office of the disbursing clerk.

The Assistant Secretary in charge of customs is assigned the general supervision of the Division of Customs, of all matters pertaining to the customs service, and the Bureau of War Risk Insurance.

The Chief Clerk is the chief executive officer of the Secretary, and, under the direction of the Secretary and Assistant Secretaries, is charged with the enforcement of departmental regulations general in their nature; is by law superintendent of the Treasury Building, and in addition superintends the Winder, Cox, Butler, and Auditors' Buildings; has direct charge of motor trucks, horses, wagons, etc., belonging to the department; the direction of engineers, machinists, watchmen, firemen, laborers, and other employees connected with the maintenance and protection of the Treasury Building and annexes; the expenditure

of appropriations for contingent expenses; the administrative control of appropriations made for Government exhibits at various expositions; the supervision and general administration of the General Supply Committee; handles offers in compromise cases; the custody of the records, files, and library of the Secretary's office; the custody of all sites for proposed public buildings in Washington; the checking of all mail relating to the personnel of the Treasury Department; the handling of requests for certified copies of official papers, and the charge of all business of the Secretary's office unassigned.

## PUBLICATIONS.

### ADMINISTRATIVE DIVISIONS.

*Chief Clerk.*—The only publications issued by the Chief Clerk are the following: (a) Report of the Contingent Expenses of the Treasury Department; (b) Traveling Expenses of Officers and Employees, Treasury Department; (c) Report showing exchanges of typewriters, adding machines, and other similar labor-saving devices. All of these are congressional documents issued annually.

*Division of Appointments.*—The only publication prepared by this division is a list of presidential officers. This publication contains the name, location, designation, date of commission and appointment, compensation and amount of bond of each presidential officer in and under the Treasury Department. It is distributed free by the Chief of the Division of Appointments for official use and is for sale by the Superintendent of Documents to the general public.

*Division of Bookkeeping and Warrants.*—The publications prepared in this division are: (a) The Annual Book of Estimates of Appropriations Submitted to Congress. (b) Supplemental Appropriation Estimates and Deficiencies Submitted to Congress. (c) Annual Digest of Appropriations. (d) Annual Combined Statement of Receipts and Disbursements, Balances, etc., of the United States by Fiscal Years. (e) Comparative Statement of Receipts and Expenditures, 1856 to date. (Annually.) (f) Daily Statement of the Condition of the Treasury. (g) Financial Statement of the United States. (Monthly.) (h) Claims Allowed by Accounting Officers. (Irregularly.) (i) Employees Under Meat-Inspection Law. (Annually.) (j) Information Relating to the Accounting System of the United States Treasury Department, 1905. (One edition.) (k) Judgments Rendered by the Court of Claims. (Irregularly.) (l) Sales of Old Material, Condemned Stores, etc. (Annually.)

The edition of each publication is limited and is mainly distributed to Government offices for official use. (a), (b), (c), (d), and (j) are for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C.

*Division of Customs.*—The following publications are issued by the Division of Customs: (a) Annual Report of the Board of General Appraisers. (b) Appeals Pending Before United States Courts in Customs Cases. (Quarterly.) (c) Compilation of Customs Laws and Digest of Decisions Thereunder (acts of 1883-1913). (d) Conference of local Appraisers. (Annually.) (e) Customs Regulations. (Irregularly.) (f) Digest of Customs Decisions. (Irregularly.) (g) Estimates of Appropriations for Collecting the Revenue from Customs. (Annually.) (h) Laws of the United States Relating to Customs, 1899. (One edition.) (i) Reappraisements of Merchandise. (Weekly.) (j) Refunds of Customs Duties. (Annually.) (k) Tariff Act of 1913.

These are published for official use and all but (i) and (j) are for sale by Superintendent of Documents, Government Printing Office, Washington, D. C.

*Division of Loans and Currency.*—The following publications are issued by this division:

(a) Information Respecting United States Bonds, Paper Currency and Coin, Production of Precious Metals, etc. Sold by Superintendent of Documents, 15 cents.

(b) Information Respecting Money in Circulation. Issued for official use.

(c) A Compilation of the Principal Laws of the United States Relating to Loans and the Currency. Distributed by Division of Loans and Currency.

(d) Regulations of the Treasury Department in Relation to United States Bonds. Sold by Superintendent of Documents, 5 cents.

(e) Circulation Statement. (Monthly.) Sets forth amounts of various kinds of money forming general stock of money in United States, amounts of each

kind held in Treasury as assets, and held by Federal reserve banks and Federal reserve agents against issues of Federal reserve notes, and finally sets forth amounts of each kind of money in general circulation, with circulation per capita. Distributed free; restricted mailing list.

(f) *Caveat List of United States Registered Bonds.* (Monthly.) List of registered bonds of United States reported lost or destroyed. Distributed free.

A restricted free mailing list is maintained for the circulation statement and caveat list. For information address, The Secretary of the Treasury, Division of Loans and Currency, Washington, D. C.

*Division of Printing and Stationery.*—The following publications are issued annually or as noted:

(a) *Annual Report of the Secretary of the Treasury on the State of the Finances.* (In pamphlet form.) This report gives the receipts and expenditures of the Government during the fiscal year with which the report deals, and treats of the collection of the revenue, the public credit, and the finances generally. It also contains the Secretary's estimate of receipts and expenditures of the Government for the following fiscal year and a synopsis of the annual reports of bureaus and divisions of the Treasury Department. It embraces, as well, the recommendations of the Secretary to Congress which, in addition to those made on the finances, include the administration of the Office of the Supervising Architect, the Director of the Mint, the Bureau of Engraving and Printing, the Coast Guard, the Public Health Service, the War Risk Bureau, and the Federal Farm Loan Bureau. The volume is distributed gratuitously to the public as far as the small edition printed will justify. It is also sold by the Superintendent of Documents.

(b) *Annual Report of the Secretary of the Treasury on the State of the Finances with Appendices,* commonly known as the Finance Report. This report of the Secretary is identical with the pamphlet edition, with the exception that there is an appendix consisting of the Report of the Treasurer of the United States, the Comptroller of the Currency, the Register of the Treasury (discontinued with one 1916 report), and portions of the Report of the Director of the Mint and the Report of the Commissioner of Internal Revenue. The volume is distributed gratuitously to the public as far as the small edition printed will justify. It is also sold by the Superintendent of Documents.

(c) *Weekly Treasury Decisions.* This is a weekly bulletin containing the decisions of the Treasury Department under the customs, internal-revenue, and other laws. It also includes the decisions of the Board of United States General Appraisers, the United States Court of Customs Appeals, and the War Risk Bureau. It is distributed gratuitously only to interested Government officials, and is sold to others on annual subscription of \$1.75 by the Superintendent of Documents.

(d) *Treasury Decisions.* (Annually or semiannually.) This is a bound volume of the weekly decisions. It appears as the "customs edition" and the "internal-revenue edition," being a compilation of the respective decisions. It is distributed gratuitously only to interested Government officials, and is for sale to the public by the Superintendent of Documents.

(e) *United States Court of Customs Appeals Reports.* This is the annual compilation of the court decisions published in *Weekly Treasury Decisions*. It is distributed gratuitously only to interested Government officials, and is for sale to the public by the Superintendent of Documents.

*Mailing lists.*—Two free mailing lists are maintained in the Division of Printing and Stationery—for the Report of the Secretary of the Treasury on the State of the Finances and for the Finance volume.

*Correspondence.*—The official designation of the officer to whom requests for publications issued by the Division of Printing and Stationery should be made is the Secretary of the Treasury.

*Secret-service Division.*—The only publication issued for distribution is the Annual Report addressed to the Secretary of the Treasury, containing a summary of the work of the service during the year; number of arrests made; amount of counterfeit money and counterfeit apparatus and materials captured; list of new counterfeits, etc. The report is distributed free. The printing of this Annual Report was discontinued with the 1916 report.

*Section of Surety Bonds.*—No publications are regularly issued, with the exception of Department Form No. 356, which is issued four times a year—on March 1, May 15, August 15, and November 15. This statement gives a list of the surety companies, capital, surplus, where incorporated, etc., and is mailed

to the bond approving officers of the Government, the surety companies, and the general public. A regular mailing list is maintained with about 1,500 addresses.

*Government Actuary.*—General publications issued are the following: (a) Tables showing the investment values of United States bonds, together with simple interest tables at 2, 3, and 4 per cent interest. These are distributed free for Government use. (b) Monthly table in the form of a departmental circular, showing daily quotations of United States Bonds, together with their corresponding investment values. A free mailing list is maintained for the distribution of this monthly circular. (c) Government salary tables, 1904. (Issued for official use.) (d) Interest tables at 8 per cent per annum. (Issued for official use.) (e) Interest rebate tables, 1899. (Issued for official use.)

Tables showing interest on \$100 at the rate of  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and  $1\frac{1}{4}$  per cent per quarter. (Issued for official use.)

For information address Government Actuary, Treasury Department, Washington, D. C.

## COMPTROLLER OF THE CURRENCY.

*Principal administrative officials.*—Comptroller; two Deputy Comptrollers; Chief Clerk. Chiefs: Division of Issue of National Bank Notes, Division of Redemption of National Bank Notes, Division of Organization of National Banks, Division of Examination, Division of Statistics, Division of General Bookkeeping, Division of Issue and Redemption of Federal Reserve Notes. The Comptroller of the Currency is ex officio a member of the Federal Reserve Board.

*General information and duties.*—The Comptroller of the Currency is charged with the execution of all laws passed by Congress relating to the issue and retirement of the national currency, generally known as national-bank notes, secured by United States bonds; and under the supervision of the Federal Reserve Board is also in charge of the issue and redemption of circulating notes of Federal reserve banks.

In addition to these powers the comptroller exercises general supervision over all national banks throughout the United States, including Alaska and Hawaii, in the matter of their organization and regulation. The comptroller also supervises all other incorporated banks and building associations doing business in the District of Columbia. He is vested with the power to appoint receivers for insolvent national banks and through the courts to enforce penalties prescribed for violations of the national-bank act. The comptroller, with the approval of the Secretary of the Treasury, also appoints all national-bank examiners. Under the Federal reserve act he executed and issued the certificates or charters for the Federal reserve banks.

Reports of condition of all national banks are made to the comptroller not less frequently than five times a year by the banks, and also periodically by the national-bank examiners appointed by him.

*General publications.*—(a) Instructions of the Comptroller of the Currency relative to the organization, etc., of national banks, digests of decisions relating to national banks, and the National Bank act, Federal reserve act, etc. They are distributed free and sold by Superintendent of Documents.

(b) Annual Report of the Comptroller of the Currency to Congress. This document is issued in two volumes, and contains information regarding the condition of the National banks with statistical tables relating thereto. It is distributed free to the banks, and sold by the Superintendent of Documents.

(c) Abstracts of Condition is a periodical issued five or more times each year, and contains statistics relating to the status of national banks at the time of each call for a report of condition. Distributed free.

(d) Digest of Decisions Relating to National Banks. (Discontinued.)

(e) National Bank Act as Amended. For sale by Superintendent of Documents.

(f) Monthly Statement of National Bank Notes and Federal Reserve Bank Notes Outstanding.

*Mailing lists.*—Mailing lists for national banks, libraries, State banking departments, United States and Foreign Consular Offices, and a restricted list of certain financiers and financial institutions and publications are maintained.

*Correspondence.*—Comptroller of the Currency, Treasury Department.

## TREASURER OF THE UNITED STATES.

*Principal administrative officials.*—Treasurer, Cashier, Assistant Treasurer, Chief Clerk, Deputy Assistant Treasurer, Superintendent, National Bank Redemption Agency.

*General information and duties.*—The Treasurer of the United States is charged with the receipt and disbursement of all public moneys that may be deposited in the Treasury at Washington and in the subtreasuries, and in the national-bank depositories; is redemption agent for national-bank notes; is trustee for bonds held to secure national-bank circulation and public deposits in national banks, and bonds held to secure postal savings in banks; is custodian of miscellaneous trust funds; is fiscal agent for paying interest on the public debt and for paying the land-purchase bonds of the Philippine Islands, principal and interest; is treasurer of the board of trustees of the Postal Savings System; and is ex officio commissioner of the sinking fund of the District of Columbia.

*General publications.*—Circulars and memoranda have been issued covering such topics as issue, exchange, and redemption of money; legal tender; issues of coin and paper currency not legal tender; uncurrent coin; regulations relating to the indorsement and payment of Treasury warrants, interest checks, and checks of disbursing officers; regulations relating to lost checks and issue of duplicates and the preparation of bonds of indemnity therefor; trade dollars; kinds of certain gold coins discontinued; premium on currency; State bank notes; Continental currency; and mint marks.

*Method of distribution of general publications.*—The above publications are distributed free upon request. They were prepared for answering letters of inquiry addressed to the department.

*Annual and other periodical publications.*—The following are issued:

(a) Annual Report of the Treasurer of the United States. The Treasurer of the United States is charged with the receipt and disbursement of all public moneys that may be deposited in the Treasury at Washington and in the subtreasuries, and in the national-bank depositories; is redemption agent for national-bank notes, Federal Reserve notes, and Federal Reserve bank notes; is trustee for bonds held to secure national-bank circulation and public deposits in national banks, and bonds held to secure postal savings in banks; is custodian of miscellaneous trust funds; is fiscal agent for paying interest on the public debt and for paying the land-purchase bonds of the Philippine Islands, principal and interest; is treasurer of the board of trustees of the Postal Savings System; and is ex officio commissioner of the sinking fund of the District of Columbia.

(b) Annual Report of the Treasurer of the United States on the Sinking Fund and Funded Debt of the District of Columbia. The Treasurer is ex officio commissioner of the sinking fund of the District of Columbia. The report covers the operation of the sinking fund, the funded debt, estimates and guaranty fund, and guaranty fund under contracts.

(c) Monthly Statement. Paper currency of each denomination outstanding. The above Annual Reports are distributed free so long as the editions issued will warrant. They are sold after a certain period of time by the Superintendent of Documents, Government Printing Office, at various prices depending on date. The edition of Monthly Statement of paper currency is very limited and is only mailed to those particularly interested.

*Mailing lists.*—Free mailing lists for the Annual Reports are maintained so far as the limited editions will permit.

*Correspondence.*—All requests for publications above mentioned should be addressed to the Treasurer of the United States.

## INTERNAL REVENUE BUREAU.

*Principal administrative officials.*—Commissioner, Deputy Commissioners, Chief Clerk.

*General information and duties.*—The commissioner has general superintendence of the collection of all internal-revenue taxes, including also the income, inheritance and excess profits taxes; the enforcement of internal-revenue laws; appointment of internal-revenue employees; compensation and duties of gaugers, storekeepers, and other subordinate officers; the preparation and distribution of stamps, instructions, regulations, forms, blanks, hydrometers, stationery, etc.

## PUBLICATIONS.

*General publications.*—These include: (a) Internal Revenue Regulations, revised when necessary or published covering new legislation affecting internal-revenue service.

(b) Compilation of Internal Revenue Laws in force March 4, 1911; Supp., 1915. Sold by Superintendent of Documents.

*Method of distribution of general publications.*—Regulations may, in general, be had on application of taxpayers to the Collector of Internal Revenue of his district or to the Commissioner of Internal Revenue, free. Distribution by sale by the Superintendent of Documents, Government Printing Office, at price indicated.

*Annual and other periodical publications.*—The following are issued: (a) Preliminary Report, Commissioner of Internal Revenue.

(b) Annual Report, Commissioner of Internal Revenue.

(c) Report showing collection of revenue derived from articles and occupations subject to internal-revenue tax, such as distilled spirits, fermented liquors, tobacco, oleomargarine, playing cards, income, corporation, capital stock, munitions, estates, etc.

(d) Report showing revenue classified by States, and internal-revenue districts.

(e) Rulings and decisions pertaining to internal-revenue laws and regulations, published in weekly pamphlet known as Treasury Decisions; subscription price, \$1.75 per annum, upon remittance to Superintendent of Documents, Government Printing Office.

(f) Compilation of Internal Revenue Laws.

(g) Digests of Decisions of the Commissioner of Internal Revenue. Sold by Superintendent of Documents.

*List of publications.*—Catalogue No. 155 contains list of Internal Revenue blanks, books, laws, regulations, and bonds. No monthly list of publications is issued.

*Correspondence.*—Requests for free publications should be addressed to Commissioner of Internal Revenue, Treasury Department, Washington, D. C. Requests for compilation of Internal Revenue Laws, and Regulations, which are sold, should be addressed to Superintendent of Documents, Government Printing Office, Washington, D. C.

## BUREAU OF THE MINT.

*Principal administrative officials.*—Director, Examiner, Executive Clerk.

*General information and duties.*—The Director of the Mint has general supervision of all the mints and assay offices of the United States. He prescribes the rules, to be approved by the Secretary of the Treasury, for the transaction of business at the mints and assay offices, receives daily reports of their operations, directs the coinage to be executed, reviews the accounts, authorizes all expenditures, superintends the annual settlements of the several institutions, and makes special examinations of them when deemed necessary. All appointments, removals, and transfers in the mints and assay offices are subject to his approval. Tests of the weight and fineness of coins struck at the mints are made in the assay laboratory under his charge. He prepares quarterly an estimate of the value of the standard coins of foreign countries for use in valuing imports and for other public purposes. An annual report on the operations of the Mint Service during each fiscal year is prepared by the director for publication in the Finance Report of the Secretary of the Treasury, giving information as to acquisition of gold and silver, coinage, etc.; also statistics on the production, by calendar years, of gold and silver in the United States and in the world, and of monetary stocks of the principal countries of the world.

*Annual reports and other periodical publications.*—(a) The Annual Report of the Director of the Mint is separately published in an amplified form, giving additional details concerning mint operations, foreign monetary systems, stocks of money, etc. Distribution is free, through the Superintendent of Documents.

(b) Value of Foreign Coins. Circular issued quarterly each year. This circular shows the value of foreign coins in United States money. Distribution free through the Secretary of the Treasury.

(c) Catalogue of Coins, Tokens, and Medals in the Numismatic Collection in the Mint of the United States at Philadelphia.

(d) General Instructions and Regulations Governing Mints and Assay Offices. Irregularly.

(e) Guide to the Numismatic Collection of the Mint of the United States at Philadelphia.

(f) Information Relating to Coins and Price List of Medals. (United States Mint, Philadelphia.) Irregularly.

(g) Laws Relating to Coinage. Irregularly.

(h) Proceedings of the Assay Commission. Annually.

(i) Rules and Tables for Computing Bullion Values. Irregularly.

(j) The Monetary Systems of the World. Irregularly.

(c) to (j) are for sale by Superintendent of Documents.

*Mailing list.*—Mailing lists are maintained for the publications distributed free.

*Correspondence.*—All correspondence in regard to free publications should be addressed to the Director of the Mint, at Washington, D. C. Requests for publications for sale should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C.

## COMPTROLLER OF THE TREASURY.

*Principal administrative officials.*—Comptroller, Assistant Comptroller, Chief Clerk.

*General information and duties.*—The Comptroller of the Treasury, under the direction of the Secretary of the Treasury, prescribes the forms of keeping and rendering all public accounts except those relating to postal revenues and the expenditures therefrom. He is charged with the duty of revising accounts upon appeal from settlements made by the auditors. Upon the application of disbursing officers, or the head of any executive department or other independent establishment not under any of the executive departments, the comptroller is required to render his advance decision upon any question involving a payment to be made by them or under them, which decision, when rendered, governs the auditor and the comptroller in the settlement of the account involving the payment inquired about. He is required to approve, disapprove, or modify all decisions by auditors making an original construction or modifying an existing construction of statutes, and certify his action to the auditor whose duties are affected thereby. Under his direction the several auditors superintend the recovery of all debts finally certified by them, respectively, to be due the United States, except those arising under the Post Office Department. He superintends the preservation by the auditors of all accounts which have been finally adjusted by them, together with the vouchers and certificates relating to the same. He is required, on his own motion, when in the interests of the Government, to revise any account settled by any auditor. In any case where, in his opinion, the interests of the Government require, he may direct any of the auditors forthwith to audit and settle any particular account pending before the said auditor for settlement. It is his duty to countersign all warrants authorized by law to be signed by the Secretary of the Treasury.

*Annual and other periodical publications.*—(a) Annual Reports of the Comptroller, First Comptroller, and Second Comptroller, 1884-1916. These reports cover, first, the business transacted in the office during each fiscal year, and second, suggestions and recommendations for improvement and efficiency in office work and in accounting methods and practices generally.

(b) Circulars of the Comptroller, First Comptroller, and Second Comptroller, 1789-1843, bound in three volumes. Later circulars, from 1874 to 1916, are contained in the annual editions of Treasury Department circulars.

(c) Decisions of the First Comptroller, 1880-1885 (Lawrence), in six volumes (vol. 1 contains an appendix, setting forth the organization and duties of the accounting officers in the Treasury Department, etc.); 1893-1894 (Bowler), in one volume. These published decisions are selected because of their importance and general interest.

(d) Digest of Decisions of the Second Comptroller, 1817-1852, 1853-1865 (Chipman), in 2 volumes; 1865-1869 (Brodhead), in 1 volume; 1869-1884 (Upton), in 1 volume; 1884-1893 (Gilkeson), in 7 volumes.

(e) Decisions of the Comptroller, 1894-1917, in 23 volumes. These published decisions are selected because of their importance and general interest. Beginning with volume 1, October, 1894, advance sheets of the Decisions of the Comptroller have been published quarterly for the first three-quarters of each

year, bound with paper covers and indexed. Beginning with volume 21, July, 1914, advance sheets of the Decisions of the Comptroller have also been published monthly, for limited distribution, sheets being fastened with wire staples, without cover or index. Digest of the Decisions of the Comptroller, 1894-1902 (covering published vols. 1-8 and manuscript vols. 1-21).

*Distribution.*—The above-mentioned publications are distributed free to public officials for official use and sold to private individuals, corporations, and institutions. They are not sold at subscription prices, but at a price for each volume fixed by the Superintendent of Documents, to whom applications and remittances should be made.

*Mailing lists.*—Free mailing lists are maintained for mailing current publications to public officials for official use.

*Correspondence.*—Public officials who are entitled to free distribution of publications should address their requests to the Comptroller of the Treasury, Washington, D. C.; all others to the Superintendent of Documents, Government Printing Office, Washington, D. C.

## AUDITORS FOR DEPARTMENTS.

### TREASURY DEPARTMENT.

*Principal administrative official.*—Auditor for the Treasury Department.

*General information and duties.*—The Auditor for the Treasury Department receives and settles all accounts of the Department of the Treasury, including all accounts relating to the customs service, the public debt, internal revenue, Treasurer and assistant treasurers, mints and assay offices, Bureau of Engraving and Printing, Coast Guard, Public Health Service, public buildings, Secret Service, War Risk insurance, etc.

*Publications.*—(a) Annual Report; a statement of business transacted by the office during each fiscal year, together with recommendations. Distribution free. Printing of this Annual Report was discontinued with the 1916 report.

(b) Laws Relating to Public Buildings, with Information for Disbursing Officers and Others. One edition. (For official use only.)

(c) Official Emoluments of Customs Officers. Annually. (For official use only.)

*Correspondence.*—Address, Auditor for the Treasury Department, Washington, D. C.

### WAR DEPARTMENT.

*Principal administrative official.*—Auditor for the War Department, Washington, D. C.

*General information and duties.*—The Auditor for the War Department receives and settles all accounts of the Department of War, including all accounts relating to the Military Establishment, armories and arsenals, national cemeteries, fortifications, public buildings and grounds under the Chief of Engineers, rivers and harbors, the Military Academy, and the Panama Canal.

*Publications.*—The only publication issued is the Annual Report, distributed in accordance with usual practice, and sold by Superintendent of Documents, Washington, D. C. Printing of this Annual Report was discontinued with the 1916 report.

### INTERIOR DEPARTMENT.

*Principal administrative official.*—Auditor for the Interior Department, Washington, D. C. (to whom correspondence should be addressed).

*General information and duties.*—All claims and accounts arising under the Department of the Interior, which includes those having relation to the protection, survey, and sale of public and Indian lands, the reclamation of arid public and Indian lands, Army and Navy pensions, Indian affairs, Geological Survey, Bureau of Education, Bureau of Mines, Patent Office, Capitol Building and Grounds, Freedmen's Hospital, Howard University, Columbia Institution for the Deaf, St. Elizabeth's Hospital, Hot Springs Reservation, the Yosemite and other national parks, and the construction of railroads in Alaska, are required to be examined and settled in this office.



*Publications.*—The only publication issued is the Annual Report, which is distributed free as long as limited edition is available. Printing of this Annual Report was discontinued with the 1916 report.

## NAVY DEPARTMENT.

*Principal administrative official.*—Auditor for the Navy Department, Washington, D. C.

*General information and duties.*—The Auditor for the Navy Department receives and settles all accounts of the Department of the Navy, including all accounts relating to the Naval Establishment, Marine Corps, and the Naval Academy.

*Publications.*—The only publications issued are: (a) Annual Report to Secretary of Treasury of work done during the fiscal year; (b) Digest of Naval Appropriations. Printing of this Annual Report was discontinued with the 1916 report.

## STATE AND OTHER DEPARTMENTS.

*Principal administrative official.*—Auditor for the State and Other Departments, Washington, D. C.

*General information and duties.*—The Auditor for the State and Other Departments receives and settles the accounts of the White House; the two Houses of Congress; the Supreme Court; the Departments of State, including the expenses of the Diplomatic and Consular Service; Justice, covering expenses of United States courts; Agriculture, including its field service; Commerce; Labor; also the accounts of the following governmental establishments: Government Printing Office; Interstate Commerce Commission; Smithsonian Institution and National Museum; District of Columbia; Civil Service Commission; the Federal Reserve Board; the Federal Trade Commission; and all boards, commissions, and establishments of the Government not under the administration of any executive department.

*Publications.*—The only publication issued is the Annual Report, a brief statement of the work of the bureau for the year, of which only about 125 copies are printed. Printing of this Annual Report was discontinued with the 1916 report.

*Mailing list.*—Distributed only in department, unless a request is received from outside.

*Correspondence.*—Requests for information should be addressed to Auditor for State and Other Departments, Washington, D. C.

## POST OFFICE DEPARTMENT.

*Principal administrative official.*—Auditor for the Post Office Department.

*General information and duties.*—The Auditor for the Post Office Department receives and examines all accounts of the office of the Postmaster General and of all bureaus and offices under his direction; all postal and money-order accounts of postmasters and foreign administrations; all accounts relating to the transportation of mails, and to all other business within the jurisdiction of the Post Office Department; and certifies the balances arising thereon to the Postmaster General for accounts of the postal revenue and expenditures therefrom, and to the Secretary of the Treasury for other accounts. He also receives and examines reports and accounts of postmasters operating postal savings banks, and accounts for expenditures from the appropriation for continuing the establishment, maintenance, and extension of the postal savings depositories. He registers, charges, and countersigns the warrants upon the Treasury issued in liquidation of indebtedness; superintends the collecting of debts due the United States for the service of the Post Office Department and all penalties imposed; directs suits and all legal proceedings in civil actions; and takes all legal measures to enforce the payment of money due the United States for the service of the Post Office Department, and for this purpose has direct official relations with the Solicitor of the Treasury, Department of Justice. He receives and accepts, with the written consent of the Postmaster General, offers of compromise under sections 295 and 409, Revised Statutes. He is required to submit to the Secretary of the Treasury quarterly statements.

of postal receipts and expenditures, and to report to the Postmaster General the financial condition of the Post Office Department at the close of each fiscal year.

*Annual and other periodical publications.*—(a) The Annual Report of the Auditor for the Post Office Department contains the financial statement covering the fiscal operations of the Post Office Department and the balance sheet showing its financial condition at the close of the fiscal year, which is published as a part of the Postmaster General's report to Congress. Distributed free.

(b) Quarterly Financial Statement of the Auditor for the Post Office Department, covering the fiscal operations of the Post Office Department by quarters. Distributed free.

(c) The Accounting System of the United States, 1789 to 1910. For sale by Superintendent of Documents, Government Printing Office, Washington, D. C.

*Mailing lists.*—Lists are maintained for first two publications for those interested.

*Correspondence.*—Address Auditor for Post Office Department, Washington, D. C.

## REGISTER OF THE TREASURY.

*Principal administrative officials.*—Register, Assistant Register.

*General information and duties.*—The Register of the Treasury signs all bonds of the United States, the bonds of the District of Columbia, the Philippine Islands, the city of Manila, the city of Cebu, and the Porto Rican gold loans, and keeps records showing the daily outstanding balances thereof. He certifies to the Treasurer of the United States, the Auditor for the Treasury, and the Loans and Currency Division, Secretary's Office, the interest due on United States loans at interest periods. He examines and approves for credit in the public debt account the Treasurer's monthly report of paid interest coupons, gives an administrative examination to paid interest checks received from the Treasurer; certifies to, and transmits such accounts to the Auditor for the Treasury.

*Annual and other periodical publications.*—(a) Annual Report. A report to the Secretary of the Treasury of the transactions in coupon and registered bonds of the United States, the insular possessions, and the District of Columbia. Also, the number and amount of paid interest checks on current loans given an administrative examination. The number and amount of all paid interest coupons received and on file. The printing of the Annual Report was discontinued with the 1916 report.

(b) History of the Currency of the Country and of the Loans of the United States from the Earliest Period to June 30, 1900. Second edition. For sale by Superintendent of Documents.

*Correspondence.*—Address Superintendent of Documents, Government Printing Office, Washington, D. C.

## FEDERAL FARM LOAN BUREAU.

*Principal administrative officials and districts.*—Members of the Board: Chairman (ex officio), Secretary of the Treasury; Farm Loan Commissioner and Executive Officer; three other members of Commission; Secretary. **FEDERAL LAND BANK CITIES:** District No. 1, Springfield, Mass.; District No. 2, Baltimore, Md.; District No. 3, Columbia, S. C.; District No. 4, Louisville, Ky.; District No. 5, New Orleans, La.; District No. 6, St. Louis, Mo.; District No. 7, St. Paul, Minn.; District No. 8, Omaha, Nebr.; District No. 9, Wichita, Kans.; District No. 10, Houston, Tex.; District No. 11, Berkeley, Cal.; District No. 12, Spokane, Wash. **FEDERAL LAND BANK DISTRICTS:** District No. 1, Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, and New Jersey; District No. 2, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia; District No. 3, North Carolina, South Carolina, Georgia, and Florida; District No. 4, Ohio, Indiana, Kentucky, and Tennessee; District No. 5, Alabama, Mississippi, and Louisiana; District No. 6, Illinois, Missouri, and Arkansas; District No. 7, Michigan, Wisconsin, Minnesota, and North Dakota; District No. 8, Iowa, Nebraska, South Dakota, and Wyoming; District No. 9, Oklahoma, Kansas, Colorado, and New Mexico; District No. 10, Texas; District No. 11, California, Nevada, Utah, and Arizona; District No. 12, Washington, Oregon, Montana, and Idaho.

*General information and duties.*—The Federal Farm Loan Board is charged with the administration of the Federal farm loan act. It establishes the 12

Federal land banks, delimits their respective districts, appoints the temporary directors and 3 members of the permanent board of directors of each of them, supervises their operations, appoints their registrars and appraisers, and has power to grant charters to national farm loan associations and joint-stock land banks. It makes appraisal of farm lands and prepares and publishes amortization tables. It supervises the operation of national farm loan associations and joint-stock land banks. It is its duty to disseminate by publications of its own and through the press matter setting forth the advantages to borrowers and investors of the system of loans established by the act. It may authorize Federal land banks to appoint agents for the making of loans to farmers in counties which fail to form farm loan associations. It has the power to revise and alter rates of interest charged by Federal land banks; to grant or refuse to Federal land banks or joint-stock land banks authority to make any specific issue of bonds; to control charges made to borrowers for expenses incident to the making of loans; to require Federal land banks to meet their obligations to each other, and to exercise such incidental powers as are necessary or requisite to fulfill its duties and carry out the purposes of the Federal farm loan act.

*General publications.*—The following five circulars have been issued:

**Circular No. 1. National Farm Loan Associations.** Discusses the organization, management, powers, and limitations of National Farm Loan Associations authorized under the provisions of the Federal farm loan act, which became operative on July 17, 1916.

**Circular No. 2. How Farmers may form a National Farm Loan Association.** This circular discusses the following topics: What the farm loan act promises; Farmers only need apply; Calling a neighborhood meeting; Appraising by a loan committee; Making an affidavit; Farmers only can be members; Farmers as shareholders; The associations as shareholders; Election of officers; How loans may be used; The farmer has little to do; Benefits to farmers; and Farmers may organize at once.

**Circular No. 3. New Mortgages for Old.** This circular is a story illustrating the practical application of the Federal farm loan act.

**Circular No. 4. The Federal Farm Loan Act.** The following subdivisions of subjects are enumerated in the act: Definitions; Federal Farm Loan Board; Federal Land Banks; Capital stock of Federal land banks; Government depositaries; National farm loan associations; Capital stock of National farm loan associations; National farm loan associations—special provisions; Appraisal; Powers of national farm loan associations; Restrictions on loans based on first mortgages; Powers of Federal land banks; Restrictions on Federal land banks; Agents of Federal land banks; Joint stock land banks; Powers of Federal Farm Loan Board; Applications for farm loan bonds; Issue of farm loan bonds; Form of farm loan bonds; Special provisions of farm loan bonds; Application of amortization and interest payments; Reserves and dividends of land banks; Reserve and dividends of national farm loan associations; Defaulted loans; Exemption from taxation; Investment in farm loan bonds; Examinations; Dissolution and appointment of receivers; State legislation; Penalties; Government deposits; Organization expenses; Limitation of court decisions; Repealing clause.

**Circular No. 5. The Farm Loan Primer.** In this circular may be found in brief form answers to the questions most frequently asked about the Federal farm loan act. The questions are asked from the point of view of the borrower and from that of prospective investors in farm loan bonds. An amortization table giving the required annual payments to discharge a \$1,000 loan, bearing 5, 5½, and 6 per cent interest, for 5-year periods, from 10 to 40 years, is included.

**Circular No. 6. A circular descriptive of Farm Loan Bonds** (superseded by Circular No. 8).

**Circular No. 7. Killing off Mortgages.** A description of the methods of amortization and the benefits to borrowers.

**Circular No. 8. Four and one-half per cent Farm Loan Bonds.** This is a circular descriptive of the Farm Loan Bonds issued by the Federal Land Banks under Federal authority and governmental supervision.

**Borrowers' Bulletin** A publication issued monthly for distribution among borrowers and prospective borrowers containing information of general interest to them concerning the operation of the Federal Farm Loan Act.

**Bulletin No. 1. Land Title Registration by Certificate.** A treatise on the Torrens system, simplified and adapted to constitutional requirements, along lines approved by United States Supreme Court decisions.

*Method of distribution of general publications.*—All publications, issued by this board, are distributed free of charge.

*Annual and other periodical publications.*—The Federal farm loan act provides that the Federal Farm Loan Board shall annually make a full report of its operations to the Speaker of the House of Representatives, who shall cause the same to be printed for the information of the Congress.

*Mailing list.*—A mailing list, for the free distribution of publications, is maintained.

*Correspondence.*—Requests for publications should be addressed to the Secretary of the Federal Farm Loan Board, Treasury Department, Washington, D. C.

## BUREAU OF ENGRAVING AND PRINTING.

*Principal administrative officials.*—Director, Assistant Director, Chief Engraver, Chief Clerk.

*General information and duties.*—The Bureau of Engraving and Printing designs, engraves, prints, and finishes all of the securities and other similar work of the Government, embracing United States notes, bonds, and certificates, certificates of indebtedness, national-bank notes, Federal reserve notes, internal-revenue, postage, and customs stamps, Treasury drafts and checks, disbursing officers' checks, licenses, commissions, patent and pension certificates, and portraits authorized by law of deceased Members of Congress and other public officials; also all postage stamps and all securities issued by the Bureau of Insular Affairs to our insular possessions.

*Annual and other periodical publications.*—(a) Annual Report of the Director of the Bureau of Engraving and Printing. Contains report of the operations of the bureau, together with statistical information relative to work performed by it during the fiscal year for which issued and other fiscal years. Distributed free.

(b) Digest of Laws Relating to the Bureau of Engraving and Printing, 1909. Issued for official use.

*Mailing lists.*—A mailing list is maintained at this bureau for annual report mentioned.

*Correspondence.*—Requests for annual report should be addressed to Director, Bureau of Engraving and Printing, Washington, D. C.

## BUREAU OF THE PUBLIC HEALTH SERVICE.

*Principal administrative officials.*—Surgeon General, six Assistant Surgeons General, Chief Clerk, Director of the Hygienic Laboratory, Assistant Director.

*General information and duties.*—The act approved August 14, 1912, changed the name of the Public Health and Marine-Hospital Service to the Public Health Service, and considerably increased its powers and functions. The bureau of the service at Washington comprises seven divisions, the operations of which are coordinated and are under the immediate supervision of the Surgeon General.

The *Division of Scientific Research* conducts the scientific investigations of the service. Intensive studies of diseases of man, including hookworm disease, malaria, pellagra, trachoma, typhoid fever, and tuberculosis, of school, mental, and industrial hygiene, of rural sanitation, of public health administration, of water supplies and sewage, and of coastal waters are carried on from special headquarters in the field in cooperation with State and local health authorities. Technical and purely laboratory studies are conducted at the Hygienic Laboratory in Washington, at special field laboratories, and at the leprosy investigation station in Hawaii. Information thus obtained is disseminated through publications, correspondence, lectures, and conferences with health authorities concerning the results of field studies in their jurisdictions. Through the division the department enforces the act of July 1, 1902, "to regulate the sale of viruses, serums, etc." The Surgeon General is required by law to call an annual conference of State and Territorial health authorities, and special conferences may also be called at any time. For advice in respect to scientific investigations he may convene the advisory board of the Hygienic Laboratory.

Through the *Division of Foreign and Insular Quarantine and Immigration* the Surgeon General enforces the national quarantine laws and prepares the regulations relating thereto. He has control of 44 Federal quarantine stations in the United States, and others in the Philippines, Hawaii, and Porto Rico, and supervises the medical officers detailed in the offices of the American con-

sular officers at foreign ports to prevent the introduction of contagious or infectious diseases into the United States. Under section 16 of the act approved February 5, 1917, he has supervision over the medical officers engaged in the physical and mental examinations of all arriving aliens.

Through the *Division of Domestic (Interstate) Quarantine* is enforced section 3 of the act of February 15, 1893, relating to the prevention of the spread of contagious or infectious diseases from one State or Territory into another. This includes the suppression of epidemics and the sanitation of interstate carriers. Since the beginning of the present war between the United States and Germany, the Service has had charge of sanitation of areas around military camps and cantonments.

The *Division of Sanitary Reports and Statistics* collects and publishes information regarding the prevalence and geographic distribution of diseases dangerous to the public health in the United States and foreign countries. Court decisions, laws, regulations, and ordinances pertaining to the public health are compiled, digested, and published. Its publications contain articles on subjects relating to the public health. This division issues the *Public Health Reports* (weekly) and Supplements to, and Reprints from, the *Public Health Reports*.

Through the *Division of Marine Hospitals and Relief* professional care is taken of sick and disabled seamen at 22 marine hospitals and 123 other relief stations. The beneficiaries include officers and crews of registered, enrolled, or licensed vessels of the United States and of the Coast Guard and Lighthouse Service; seamen employed on vessels of the Mississippi River Commission, and of the Engineer Corps of the Army; keepers and surfmen of the Coast Guard. A purveying depot for the purchase and issuance of supplies is maintained at Washington. Physical examinations of officers and seamen and keepers and surfmen of the Coast Guard and the examinations for the detection of color-blindness in masters, mates, and pilots are conducted through this division, and the medical evidence of disability in claims for benefits against the Coast Guard are reviewed.

In the *Division of Personnel and Accounts* are kept the records of the officers and of the expenditures of the appropriations.

Through the *Miscellaneous Division* the various service publications are issued, including the annual reports, public health reports, supplements, and reprints, public health bulletins, bulletins of the Hygienic Laboratory, and miscellaneous publications on health topics.

*General publications.*—Publications have been issued dealing with subjects included in the following general topics: Alaska (sanitary conditions), Anthrax, Antiseptics, fumigants and disinfectants, Antitoxins and toxins, Care of the baby, Bacteriological standards of milk and water, Bubonic plague, Cerebrospinal meningitis, Certified milk, Cholera, Climate and relation to tuberculosis, Common drinking cups, Common towels, Communicable diseases, Deaths and death rates, Statistical publications, Dengue fever, Dental instruments (sterilization), Diet with reference to pellagra, Digitalis, Diphtheria and diphtheria antitoxin, Diseases (prevention), Disinfectants and disinfection, Drug addicts, Drug intoxication, Drugs, Dysentery (amebic), Epinephrine, Ergot, Eskimos, Filariasis, Fleas, Flies, Food, Formaldehyde, Fumigation and disinfection, Gastro-enteritis, Goiter, Habit-forming drugs, Health and exercise, Health insurance, Health authorities, Hookworm disease, Hospitals, Ice, Impounded waters, Industrial hygiene, Industrial insurance, Infantile paralysis, Infant mortality, Care and feeding of infants, Inoculation, Interstate carriers (sanitation), Interstate quarantine, Intestinal infections, Leprosy, Lice, I. R. S. privy, Measles, Medical inspection of schools, Mice and rats, Milk, Morbidity statistics, Mortality statistics, Mosquitoes, Municipal ordinances on the prevention and spread of disease, Morbidity reports, Notifiable diseases, Nutritional diseases, Ophthalmia neonatorum, Open-air schools, Parasites of man, Pellagra, Pharmacopoeia of the United States (digest), Philippine Islands, Plague, Poliomyelitis (infantile paralysis), Prevalence of diseases in the United States, Preventable diseases, Privies, Public health, Public health administration, Pulmonary tuberculosis, Pyorrhea alveolaris, Quarantine, Quarantine regulations, Rabies, Railroad sanitation of interstate carriers, Rat proofing, Rat extermination, Rats, Riggs disease (pyorrhea alveolaris), Rocky Mountain spotted fever, Rodents, Rural sanitation, Rural school sanitation, Sanitary legislation, Sanitary privies, Sanitary survey, Sanitation, Scarlet fever, School children, School hygiene, School sanitation, Screening to prevent malaria, Septic sore throat, Serums, toxins and analogous products, Sewage disposal, Shellfish pollution, Pollution of interstate

waters, Smallpox, Soil pollution, Spotted fever (Rocky Mountain spotted fever), Squirrels and relation to plague, Statistics of births, deaths, marriages, and public-health topics, Stream pollution, Venereal diseases, Tetanus (lockjaw), Ticks with reference to Rocky Mountain spotted fever, Trachoma, Tuberculosis, Typhoid fever, Typhus fever, Uncinariasis, Vaccination, Vessels (fumigation), Vital statistics, Water, examination, pollution, etc., Water supplies, Whooping cough, Yellow fever, medical Zoology, Zooparasitic intestinal infections.

The above items are taken from the index of the List of Publications. The bureau has issued literature on these various topics, which appeared from time to time in the form of (1) Hygienic Laboratory Bulletins; (2) Public Health Bulletins; (3) Reprints from the Public Health Reports; (4) Supplements to the Public Health Reports; (5) Yellow Fever Institute Bulletins; (6) Miscellaneous Publications.

The above-mentioned series are not issued periodically, but irregularly as material for the same is available.

(1) The Hygienic Laboratory Bulletins comprise technical studies carried on in the hygienic laboratory of this service and are designed for technical workers.

(2) The Public Health Bulletins comprise material relating to public health and sanitation and are more popular in their nature than are the Hygienic Laboratory Bulletins, and are consequently better suited for general distribution.

(3) The Reprints from the Public Health Reports are articles which first appear in the weekly Public Health Reports. Because of their popular nature, these leading articles are subsequently reprinted as separates in somewhat larger editions, in order that more general distribution may be made thereof.

(4) The Supplements to the Public Health Reports are also popular in nature. This material does not originally appear in the Public Health Reports, nor are the Supplements distributed therewith.

(5) The Yellow Fever Bulletins contain the findings of the Yellow Fever Institute, created to study the cause and mode of transmission of yellow fever. There have been no bulletins issued in this series for several years, and because of the fact that the cause of yellow fever has been discovered it is not believed that further bulletins will be issued in this series.

(6) The Miscellaneous Publications comprise series of regulations necessary in the administration of the service and other miscellaneous material not properly classifiable in any of the other serial publications of the service.

(7) The service also issues a series entitled "Health News," which consist of mimeographed or multigraphed information for use of the press of the country. These news items are printed in a concise and pithy style suitable for news items. The bureau distributes these "Health News" to a mailing list comprising newspapers, magazines, writers, etc., and in response to individual requests if copies are available after the mailing list has been supplied.

*Method of distribution of general publications.*—Publications are distributed free so long as the supply lasts, by means of mailing lists and also in compliance with individual requests. When exhausted, applicants are then referred to the Superintendent of Documents, where copies are sold at cost.

*Annual and other periodical publications.*—(1) Annual Report; (2) Public Health Reports (weekly).

The Public Health Reports is a weekly publication. Each issue usually contains one or more leading articles on some timely subject, relating to hygiene, sanitation, or public health, and forms the first part. The second part comprises statistical information relating to the prevalence of disease throughout the United States and foreign countries. The last part relates to sanitary legislation, comprising State laws, sanitary ordinances, and court decisions pertaining to hygiene, public health, and sanitation.

The municipal ordinances, the State laws, and the court decisions are collated into separate compilations and subsequently issued as Reprints from the Public Health Reports. The Public Health Reports are distributed in conformity with the act of Congress, February 15, 1893, to "health officers," "collectors of customs," and "other sanitarians." Other persons interested in these reports can secure the same from the Superintendent of Documents, Government Printing Office, Washington, D. C., at a cost of \$2 per year.

The following bulletins and regulations are also issued (a) For official use; (b) Congressional documents; (c) For sale by Superintendent of Documents):

Interstate Quarantine Regulations of the United States. 1916. (a, c)

Official List of Officers and Stations of the United States Public Health Service. (a, c) Semiannually.

Quarantine Laws and Regulations of the United States. Revised edition. October, 1910. (a, c)

Regulations for the Government of the Public Health Service. 1913.

Regulations for the Sales of Viruses, Serums, Toxins, and Analogous Products in the District of Columbia and in Interstate Traffic. May 11, 1909.

Regulations Governing Uniforms of Officers and Employees of the Public Health Service. 1914. (a, c)

These are for official use and for sale by Superintendent of Documents.

*List of publications.*—The bureau issues a list of its publications at irregular intervals, depending upon the number of documents issued and how frequently each successive list requires revising, and also small monthly lists.

*Mailing lists.*—The bureau maintains mailing lists for the following service publications: (1) Public Health Bulletins; (2) Hygienic Laboratory Bulletins; (3) Reprints from the Public Health Reports; (4) Supplements to the Public Health Reports; (5) Annual Reports; (6) Public Health Reports; (7) Bound Public Health Reports; (8) Yellow Fever Bulletins; (9) Health News (Press Bulletins); (10) Monthly List of Publications.

Additions to these mailing lists are made free of charge.

*Maps.*—The bureau issues no series of maps. It frequently happens that maps showing the prevalence of disease, or for kindred purposes, are issued in connection with some of the above publications, but in this event the map appears in the publication itself and is not issued separately.

*Correspondence.*—Requests for publications should be addressed to the Surgeon General, United States Public Health Service, Washington, D. C.

## THE COAST GUARD.<sup>1</sup>

*Principal administrative officials.*—Captain Commandant, Chief of Division of Operations, Ordnance, Communication, Chief of Division of Matériel, Equipment, Superintendent of Construction and Repair, Engineer in Chief, Inspector, General Superintendent.

*General information and duties.*—The Captain Commandant of the Coast Guard is charged by law with the administration of the Coast Guard, under the direction of the Secretary of the Treasury. Headquarters are located in the Munsey Building, 1329 E Street. The act of January 28, 1915, provided that the Coast Guard be created in lieu of the then existing Revenue-Cutter Service and the Life-Saving Service, and to be composed of those two organizations. It also provided that it shall constitute a part of the military forces of the United States, and shall operate under the Treasury Department in time of peace and operate as a part of the Navy, subject to the orders of the Secretary of the Navy, in time of war or when the President shall so direct.

In general the duties of the Coast Guard may be classified as follows: Rendering assistance to vessels in distress and saving life and property; destruction or removal of wrecks, derelicts, and other floating dangers to navigation; extending medical aid to American vessels engaged in deep-sea fisheries; protection of the customs revenue; operating as a part of the Navy in time of war or when the President shall direct; enforcement of law and regulations governing anchorage of vessels in navigable waters; enforcement of law relating to quarantine and neutrality; suppression of mutinies on merchant vessels; enforcement of navigation and other laws governing merchant vessels and motor boats; enforcement of law to provide for safety of life on navigable waters during regattas and marine parades; protection of game and the seal and other fisheries in Alaska, etc.; enforcement of sponge-fishing laws.

To assist the Captain Commandant in conducting the business of his office there are established at headquarters the following divisions:

Division of operations: Having cognizance of matters relating to the personnel and operations of the service.

Division of matériel: Having cognizance of matters relating to supplies, outfits, equipment, accounts, and the files.

Division of construction and repair: Having cognizance of matters relating to the construction of and repairs to the hulls of vessels and boats, stations, wharves, and all other property.

<sup>1</sup> At the present time this service is under the Navy Department, but it is normally under the Treasury Department.

**Division of engineering:** Having cognizance of matters relating to the construction of and repairs to the motive power of vessels and boats and the machinery of all other property.

**Division of inspection:** Having cognizance of matters relating to the inspection of vessels, stations, boats, and all other property.

Under the direction of the Captain Commandant statistics are prepared regarding the loss of life and property on account of wrecked vessels in American waters. He is also required to acquaint himself, as far as practicable, with all means employed in foreign countries which may seem to affect advantageously the interests of the Coast Guard, and to cause to be properly investigated all plans, devices, and inventions for the improvement of life-saving apparatus for use at the stations which may appear to be meritorious and available.

#### PUBLICATIONS.<sup>1</sup>

Directions for Restoring the Apparently Drowned, 1916.  
Revenue-Cutter Service in the War with Spain.

#### COAST GUARD.

Bulletin No. 4. Derelict Destruction and Removal of other Menaces to Navigation, 1915. (a, c)

Bulletin No. 5. International Ice Observation and Ice Patrol Service in North Atlantic Ocean, 1915. (a, c)

Handbook on the Care and Operation of Gasoline Engines. (a, c) Also published as a Congressional (House) document.

Information Relative to Appointments to Cadetships in the Line and Cadet Engineers of the United States Coast Guard. (a, c)

Instructions for the Maintenance, Care, and Operation of Telephone Lines and Equipment, United States Coast Guard, 1915. (a)

Radio Instructions for the United States Coast Guard. (a)

Register of Officers, Vessels, and Stations of the United States Coast Guard. (a, c) Annually.

Regulations for the Coast Guard of the United States. (a)

Regulations Governing the Uniforms for Warrant Officers and Enlisted Persons of the United States Coast Guard. (a)

#### FORMER REVENUE-CUTTER SERVICE.

Bulletin No. 1. Reports of Vessels on Ice Patrol in the North Atlantic Ocean, 1913. (a, c)

Bulletin No. 2. Methods of Searching for Derelicts at Sea, 1913. (a, c)

Bulletin No. 3. International Ice Observation and Ice Patrol Service in North Atlantic Ocean, 1914. (a, c)

Fur Seal, Sea Otter, and Salmon Fisheries: Acts of Congress, Presidential Proclamations, and Regulations Governing United States Vessels: Acts of Parliament and Orders in Council Pertaining to Fur Seal Fisheries in Bering Sea and North Pacific Ocean; Sea Otter Regulations; Laws as to Fisheries in Alaska. (a, c)

Information Relative to Removal of Derelicts and other Dangers to Navigation. (a)

Instructions for Drills and Target Practice in the United States Revenue-Cutter Service. (a)

Regulations Governing the Uniform for Commissioned Officers, Warrant Officers, and Enlisted Men of the Revenue-Cutter Service of the United States. (a)

Regulations for the School of Instruction of the United States Revenue-Cutter Service. (a, c.)

Report of the Board of Engineers, United States Army, on the Storage of Explosives in New York Harbor. (a, c.)

Report of the Cruise of the Revenue Steamer *Corwin* in the Arctic 1884. 1885. (b, c)

Report of the Cruise of the Revenue Cutter *Bear* and the Overland Expedition for the Relief of the Whalers in the Arctic Ocean 1897-1898. (b, c)

<sup>1</sup> (a) For official use; (b) congressional documents; (c) for sale by Superintendent of Documents.



Report of the Operations of the Revenue Steamer *Nuvivak* on the Yukon River Station, Alaska. 1899-1901. (c)

Report on Sea Otter Banks of Alaska. (c)

#### FORMER LIFE-SAVING SERVICE.

Beach Apparatus Drill. (a) Irregularly.

Instructions to Mariners in Case of Shipwreck, with Information Concerning the Life-Saving Stations upon the Coasts of the United States. (a, c) Irregularly.

Organization and Methods of the Life-Saving Service. (a) Irregularly.

*Method of distribution of general publications.*—The first two are distributed free through Superintendent of Public Documents, others in accordance with note.

*Annual and other periodical publications.*—(a) Annual Report United States Coast Guard, including organization, work performed, statistical tables, and miscellaneous data regarding the service.

(b) Annual reports of Former Revenue-Cutter Service and Former Life-Saving Service for sale by Superintendent of Documents.

*Mailing lists.*—There is a mailing list maintained for the annual report only.

*Correspondence.*—The Captain Commandant, United States Coast Guard, should be addressed on matters relating to Coast Guard publications. At present the service has been temporarily transferred to the Navy Department.

### SUPERVISING ARCHITECT'S OFFICE.

*Principal administrative officials.*—Supervising Architect; Executive Officer; Technical officer; Superintendents: Drafting Division, Computing Division, Structural Division, Mechanical Engineering Division, Repairs Division, Accounts Division, Maintenance Division; Chief of Files and Records Division.

*General information and duties.*—Subject to the direction and approval of the Secretary of the Treasury, the duties performed by the Supervising Architect embrace the following: Securing cessions from States of jurisdiction over sites and the payment for the same; preparation of drawings, estimates, specifications, etc., for, and the superintendence of the work of, constructing, rebuilding, extending, or repairing public buildings; the care, maintenance, and repair of public buildings, the direction of the operating force in public buildings, and the supply of furniture, carpets, lighting fixtures, mechanical equipment, safes, and miscellaneous supplies for use of custodians' and engineers' forces in the care of public buildings, post offices, customhouses, courts, etc.

*General publications.*—(a) History of Public Buildings Under the Control of the Treasury Department. (Out of print.)

(b) Instructions to Custodians of Public Buildings Under the Control of the Treasury Department. Irregularly.

(c) Instructions to Superintendents of Construction, Superintendents of Repairs, and Assistant Superintendents of Repairs of Public Buildings Under the Control of the Treasury Department. Irregularly.

(d) Information and Suggestions for the Care of Public Buildings, etc. 1918. (a, c.)

All of the above are for official use, and (a), (b), and (d) can also be purchased of the Superintendent of Documents.

*Annual and all other periodical publications.*—Annual Report of the Supervising Architect. This is the only publication prepared in this office. It shows the public buildings under the control of the Treasury which are occupied, in course of construction, and authorized, including sites, arranged alphabetically, in two divisions. Division A. Statement of legislative authorization and appropriations, with notes relative to the acquisition of sites the progress of the work, and other pertinent features. Division B. Statement of expenditures for buildings—construction, annual repairs, etc.—and sites, showing outstanding obligations and balances, with notes as to surplus fund deposits, and other features.

*Distribution of report.*—Report is distributed free on limited list maintained in this office, which list is restricted to employees of the office in the field; to certain newspapers, libraries, and United States foreign representatives, and to construction and bonding companies doing business with the office. It is also on sale at 50 cents per copy by the Superintendent of Documents, Government Printing Office, Washington, D. C., to whom remittances should be sent.

**Mailing lists.**—A very limited list is maintained for the distribution of the Annual Report.

**Correspondence.**—Address The Supervising Architect, Treasury Department, Washington, D. C.

## BUREAU OF WAR-RISK INSURANCE.

**Principal administrative officials.**—Director, Assistant Director, Chief Clerk, and Assistant Chief Clerk. I. Division of Military and Naval Insurance: Commissioner, Assistant to Commissioner, Deputy Commissioner in Charge of Accounts, Deputy Commissioner in Charge of Claims, Deputy Commissioner in Charge of Insurance, General Counsel. II. Division of Marine and Seaman's Insurance: Deputy Commissioner of Marine Insurance, Deputy Commissioner of Seamen's Insurance.

**General information and duties.**—The Bureau of War-Risk Insurance is charged with the duty of carrying out the law approved October 6, 1917, for insuring the commissioned officers and enlisted men and nurses engaged in active service under the War and Navy Departments.

**General publications.**—The following bulletins have been issued: (a) The act, Public No. 90, Establishment of the Bureau of War-Risk Insurance. Allotments and allowances. Compensation for death or disability and insurance.

(b) Bulletin No. 2, Brief Outline of Family Allowances, Compensation, and Insurance. Description of benefits under the act, approved October 6, 1917.

(c) Bulletin No. 3, Explanation of Bulletin No. 2, submitted by the Hon. Julian W. Mack. Minutes of a conference of officers and enlisted men of the Army and Navy held in Washington on October 16, 17, and 18, 1917. This explanation has the full approval of the Bureau of War-Risk Insurance.

(d) Bulletin No. 4, Uncle Sam's Insurance for Soldiers and Sailors. Answers to questions you will ask. Popular description.

(e) Letter of the Secretary of the Treasury to Officers and Enlisted Men of the Army and Navy. Single-page letter of Secretary McAdoo explaining the act.

(f) Pamphlet to the Officers and Enlisted Men of the Army and Navy. Two-page pamphlet issued by the Executive Committee of the Soldiers' and Sailors' Insurance Campaign Council.

(g) Special Bulletin No. 2, Memorandum for company commanders impressing upon them the advisability of taking out war-risk insurance.

**Method of distribution.**—The above publications are available for free distribution to the Army and Navy of the United States.

**Correspondence.**—Requests for publications should be addressed to the chief clerk, Bureau of War-Risk Insurance, Washington, D. C.

## GENERAL SUPPLY COMMITTEE.

**Principal administrative official.**—Superintendent of Supplies.

**General information and duties.**—The General Supply Committee was created by the act of June 17, 1910 (36 Stat., 531), in lieu of the Board of Awards provided for in section 3709 of the Revised Statutes, as amended, and is composed of officers, one from each of the executive departments, designated by the head thereof. The Superintendent of Supplies, who is appointed by the Secretary of the Treasury, is ex officio secretary of the General Supply Committee, and he conducts all correspondence, supervises the preparation of all contracts, and performs such other duties as the Secretary of the Treasury may direct. It is the duty of the General Supply Committee to make an annual schedule of required miscellaneous supplies for the use of each of the executive departments and other Government establishments in Washington, to standardize such supplies, eliminating all unnecessary grades and varieties, and to solicit bids based upon formulas and specifications drawn up by such experts in the service of the Government as the committee may see fit to call upon, who shall render whatever assistance they may require, provided that the articles intended to be purchased in this manner shall be those in common use by or suitable to the ordinary needs of two or more such departments or establishments. Every purchase or drawing of such supplies from the contractor is immediately reported to said committee. No disbursing officer may be a member of the committee.

**Annual and other periodical publications.**—General schedule of supplies and specifications for same, containing a list of material, equipment, and supplies

used by the executive departments and other Government establishments in Washington, as well as by certain field services. Specifications distributed free to those interested.

*Mailing lists.*—Lists are maintained for those interested in Government supplies.

*Correspondence.*—Address Superintendent of Supplies, General Supply Committee, Treasury Department, Washington, D. C.

## SOLICITOR OF THE TREASURY.

Publications are issued as follows:

(a) Digest of the Opinions and Briefs of the Solicitor of the Treasury, January 1, 1880, to December 31, 1910, prepared by Robert J. Mawhinney, 510 pages.

(b) Digest of the Opinions and Briefs of the Solicitor of the Treasury, January 1, 1911, to December 31, 1912, prepared by Robert J. Mawhinney, 105 pages.

The opinions and briefs digested in these works were on legal questions arising principally in the Treasury Department and in suits against defaulting contractors and disbursing officers of the Government. These publications are sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., and a limited number of copies are held by the Solicitor of the Treasury for free distribution to public officers and libraries.

*Correspondence.*—Requests for publications should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C., or if for use by a public officer or in a public library, application should be made to the Solicitor of the Treasury.

## PART III—DEPARTMENT OF WAR.<sup>1</sup>

(For location of department, offices, etc., see page 187.)

*Principal administrative officials.*—Secretary of War; Assistant Secretaries of War; Assistant and Chief Clerk; Private Secretary to Secretary of War; Clerk, to Assistant Secretary; Assistant Chief Clerk; Disbursing Clerk; Appointment Clerk; Chiefs of Divisions; Correspondence, Mail and Record, Requisitions and Accounts, Supply, Telegraph.

*General information and duties.*—The Secretary of War is head of the War Department, and performs such duties as are required of him by law or may be enjoined upon him by the President concerning the military service. He is charged by law with the supervision of all estimates of appropriations for the expenses of the department, including the Military Establishment; of all purchases of Army supplies; of all expenditures for the support, transportation, and maintenance of the Army, and of such expenditures of a civil nature as may be placed by Congress under his direction.

He has supervision of the United States Military Academy at West Point and of military education in the Army, of the Board of Ordnance and Fortification, of the various battlefield commissions, and of the publication of the Official Records of the War of the Rebellion.

He has charge of all matters relating to national defense and seacoast fortifications, Army ordnance, river and harbor improvements, the prevention of obstruction to navigation, and the establishment of harbor lines; and all plans and locations of bridges authorized by Congress to be constructed over the navigable waters of the United States require his approval. He also has charge of the establishment or abandonment of military posts, and of all matters relating to leases, revocable licenses, and all other privileges upon lands under the control of the War Department.

To the Assistant Secretary of War is assigned the general direction and supervision of all matters relating to rivers and harbors; bridges over navigable waters of the United States; leases, revocable licenses, and all other privileges upon lands under the control of the War Department; inspections relating to the Military Establishment; recruiting service, discharges, commutation of rations, courts-martial, and other questions relating to enlisted men, including clemency cases and matters relating to prisoners at military prisons and penitentiaries. He also has charge of routine matters relating to the militia; the promotion of rifle practice; the supervision of miscellaneous claims and accounts; matters relating to national cemeteries, boards of survey, open-market purchases, and medals of honor.

The Assistant and Chief Clerk of the War Department is the head of the Office of the Secretary of War, and as such has charge of the records and files, and supervision of the receipt, distribution, and transmission of the official mail and correspondence of that office, and is charged with the administrative action required by law to be taken in connection with the settlement of disbursing officers' accounts that do not relate to the different staff corps of the Army. By law he is authorized to sign such official papers and documents as the Secretary of War may direct; and, in pursuance of law, is designated to supervise the classification and compilation of all estimates of appropriations. He is authorized and directed by the Secretary of War to perform the duties assigned the Assistant Secretary of War during the temporary absence from the department of the Assistant Secretary; and he has general supervision of matters relating to civilian employees in and under the War Department; printing and binding and advertising for the War Department and the Army; appropriations for contingent expenses, stationery, rent of buildings; and the department's telegraph and telephone service; and performs such other duties as may be required by the Secretary of War.

<sup>1</sup> Since the preparation of this Bulletin two new bureaus have been created, viz: Bureau of Military Aeronautics and the Aircraft Production Board. A Tank Corps has also been established.

## GENERAL STAFF CORPS.

*Principal administrative officials.*—Chief of Staff, Assistants to Chief of Staff, Secretary General Staff Corps, and Chief Clerk.

*General information and duties.*—The Chief of the General Staff is the immediate adviser of the Secretary of War upon all matters relating to the Military Establishment, and is charged by the Secretary of War with the planning and development of the Army program in its entirety; the constant development thereof in its larger aspects and the relating of this program to the General Staff, and the entire Army. He exercises such supervising and coordinating powers and secures such information as his judgment may dictate, to the end that the war policies of the Secretary of War may be harmoniously executed by the several corps, bureaus, and all other agencies of the Military Establishment, and the Army program to its last detail be carried out speedily and efficiently. In order to accomplish these objects the General Staff has been divided into five main divisions under the direct control of the Chief of Staff, and each division is under an officer who has full power to act for the Secretary of War and the Chief of Staff upon all matters charged to his division.

## WAR COLLEGE DIVISION.

(Army War College Building, Washington Barracks, D. C.)

*Principal administrative officials.*—Chief, Chief Clerk.

*General information and duties.*—The General Staff Corps was organized under the provisions of act of Congress approved February 14, 1903. Its principal duties are to prepare plans for the national defense and for the mobilization of the military forces in time of war; to investigate and report upon all questions affecting the efficiency of the Army and its state of preparation for military operations; to render professional aid and assistance to the Secretary of War and to general officers and other superior commanders and to act as their agents in informing and coordinating the action of all the different officers who are subject to the supervision of the Chief of Staff; and to perform such other military duties not otherwise assigned by law as may be from time to time prescribed by the President.

The Chief of Staff, under direction of the President, or of the Secretary of War under the direction of the President, has supervision of all troops of the line, of The Adjutant General's Department in matters pertaining to the command, discipline, or administration of the existing Military Establishment, and of the Inspector General's, Judge Advocate General's, Medical, and Ordnance Departments, the Quartermaster Corps, the Corps of Engineers, and the Signal Corps, and performs such other military duties not otherwise assigned by law as may be assigned to him by the President. For purposes of administration the Office of the Chief of Staff constitutes a supervising military bureau of the War Department.

## BOARD OF ORDNANCE AND FORTIFICATION.

*Principal administrative officials.*—President and six other members, Recorder.

*General information and duties.*—Consideration of military inventions. No publications available.

## MILITIA BUREAU.

*Principal administrative officials.*—Chief, Assistant, Chief Clerk.

*General information and duties.*—The Militia Bureau is vested with all administrative duties involving the organization, armament, instruction, equipment, discipline, training, inspection, and payment of the National Guard; the conduct of camps of instruction of the National Guard, and the administrative duties connected with the preparation of the National Guard for participation in field exercises and maneuvers of the Regular Army; the mobilization of the National Guard in time of peace; and all matters pertaining to the National Guard and the unorganized militia of the United States not herein generically enumerated which do not under existing laws, regulations, orders, or practice

come within the jurisdiction of the General Staff or any division or bureau of the War Department, and which will not operate to divest any bureau or division of the War Department of duties now properly belonging to it. He cooperates with the governors of States in the use of troops in the maintenance of civil order.

*Publications.*—The only publication issued for general distribution is the Annual Report to the Secretary of War, which is for free distribution as long as the limited edition is available by addressing Chief of Militia Bureau, War Department.

## OFFICE OF THE CHIEF OF COAST ARTILLERY.

*Principal administrative officials.*—Chief of Coast Artillery, Acting Chief, Senior Assistant, Chief Clerk.

*General information and duties.*—The Chief of Coast Artillery is charged with the duty of keeping the Chief of Staff advised and informed as to the efficiency of the personnel and matériel of the Coast Artillery, and of initiating such measures relative thereto as, in the judgment of the Chief of Coast Artillery, shall tend to promote their efficiency. He is charged also with the duty of advising the chiefs of bureaus of the War Department of all matters relating to Coast Artillery matériel or personnel which the experience and observation of the Coast Artillery show to be of practical importance, of submitting recommendations as to the instruction of Coast Artillery officers and men, as to examinations for appointment and transfer of officers to the Coast Artillery Arm and for promotions therein, and as to the assignment of Coast Artillery officers to special duty and to Coast Artillery organizations and stations. He is a member of the Board of Ordnance and Fortification and is by law a member of the General Staff Corps.

*Publications.*—The only publication available for distribution is the Annual Report of the Chief of Coast Artillery, which is distributed free to those interested, as long as the limited edition printed is available.

## OFFICE OF THE JUDGE ADVOCATE GENERAL.

*Principal administrative officials.*—Judge Advocate General, Assistant, Executive Officer, Chief Clerk and Solicitor.

*General information and duties.*—The Judge Advocate General is directed by law to "receive, review, and cause to be recorded the proceedings of all courts-martial, courts of inquiry, and military commissions." He reports upon applications for clemency, parole, pardon, restoration to the colors, remission of citizenship rights, and reenlistment of general prisoners and dishonorably discharged soldiers. He also furnishes the Secretary of War information and advice relating to lands under the control of the War Department, as well as reports and opinions upon legal questions arising under the laws, regulations, and customs pertaining to the Army, and upon miscellaneous questions arising under civil law; examines and prepares legal papers relating to the construction of bridges, dams, or other work over or in navigable waters; drafts bonds and examines those given to the United States by disbursing officers, colleges, rifle clubs, and others; examines, revises, and drafts charges and specifications against officers and soldiers; and also drafts and examines deeds, contracts, licenses, leases, and other legal papers relating to matters under the War Department.

*General publications.*—(a) Military Laws of the United States, 1915. This volume publishes the military laws of the United States relating to the executive departments of the Government; the Army, the Militia, and the Volunteers; the Indians—Indian agents—Indian country; the employment of the military force; soldiers' homes; care of the insane; flag and seal of the United States; and public property.

(b) Manual for Courts-Martial, Courts of Inquiry, and of other Procedure under Military Law, 1917. This work contains the new military code, or articles of war, of 1916 and publishes in detail the procedure thereunder by military courts, including all courts-martial in the National Guard of the several States and Territories and the District of Columbia not in the service of the United States, in so far as applicable, under section 102 of the National Defense Act approved June 3, 1916.

(c) **Military Reservations, National Cemeteries, and Military Parks, Title, Jurisdiction, etc., 1916.** The scope of this work is described in the preface thereto as follows: "The main purpose of this book is to publish in convenient form for official use information concerning the title of the United States to the various military reservations, including the national military parks and the national cemeteries, and also the statutes of the several States by which political jurisdiction over military reservations located therein has been ceded to the United States. The statement of title describes the deeds under which the lands comprising some of the reservations, or portions thereof, have been acquired, and the Executive orders under which other lands have been reserved from the public domain for military purposes. It describes, also, all easements affecting the title of any reservation, and the leases and licenses granted for any use and occupation of the same, except that unimportant licenses and short-term leases have in some cases been omitted. This book also contains a table of the reservations that have passed from the control of the War Department since 1850, giving the dates of and authority both for their acquisition and disposition with references to acts of Congress, general orders, etc., in connection therewith. In an appendix, under the several titles 'Eminent domain,' 'Jurisdiction,' 'Title,' and 'Taxation,' there has been brought together a large number of syllabi and extracts from court decisions, and opinions of the Attorney General and of the Judge Advocate General which bear directly upon these subjects."

(d) **Digest of the Opinions of the Judge Advocate General of the Army, 1912, with supplement 1912 to April 1, 1917.** As the title indicates, this work publishes all opinions of general interest of the Judge Advocate General of the Army from September 3, 1862, to January 31, 1912. The supplement July 1, 1912, to April 1, 1917, includes in addition to the opinions of the Judge Advocate General of the Army, certain decisions of the Comptroller of the Treasury, the courts, and certain opinions of the Attorney General of the United States affecting or of general interest to the Military Establishment.

**Method of distribution of general publications.**—The publications of the Judge Advocate General's Office are distributed for the official use of the Army and the National Guard. Under the printing and binding act of January 12, 1895, copies of these publications are sold to the public by the Superintendent of Documents, Government Printing Office.

**Annual and other periodical publications.**—(a) The Annual Report of the Judge Advocate General of the Army shows the work of the department for the fiscal year and gives a summary of military justice as administered in the Army during that period. (b) Monthly Bulletin gives a digest of the opinions of the Judge Advocate General, the Attorney General, and certain decisions of the Comptroller of the Treasury and courts upon various questions arising in the military and civil administration of the War Department and the military establishment.

**Mailing lists.**—Under the printing and binding laws the publications of this office are distributed by The Adjutant General of the Army, but it is understood that there is no free mailing list maintained in his office.

**Correspondence.**—Correspondence relative to securing copies should be addressed to The Adjutant General of the Army.

## OFFICE OF THE INSPECTOR GENERAL.

**Principal administrative officials.**—Inspector General, Chief Clerk.

**General information and duties.**—The Inspector General, with his assistants, inspects the United States Military Academy, the service schools; garrisoned posts and commands; camps of maneuver and instruction; staff offices at department headquarters; general hospitals; armories and arsenals; quartermaster, ordnance, medical, torpedo, signal, and engineer depots; recruit depots and recruiting stations; the disciplinary barracks and its branches, and military prisoners in United States penitentiary, Leavenworth, Kans.; ungarrisoned posts; national cemeteries; United States Army transports, cable boats, mine planters, and harbor boats; unserviceable property; money accounts of all disbursing officers of the Army; Soldiers' Home, District of Columbia, and the headquarters and 10 branches of the National Home for Disabled Volunteer Soldiers; the inspection of the National Guard as required by the act of June 3, 1916; also makes such special investigations as may be ordered, and assists in the annual tactical inspection of troops by department and brigade com-

manders; audits the report of the receipts and expenditures of the American National Red Cross.

*Publications.*—The only publications by this office for distribution is the Annual Report of the Inspector General. This report relates to the inspection of the Army, and it is distributed free.

*Correspondence.*—Address requests for publications to Inspector General of the Army, Washington, D. C.

## OFFICE OF THE ADJUTANT GENERAL.

*Principal administrative officials.*—The Adjutant General, Chief Clerk.

*General information and duties.*—The Adjutant General is charged with the duty of recording, authenticating, and communicating to troops and individuals in the military service all orders, instructions, and regulations issued by the Secretary of War through the Chief of Staff, or otherwise; of preparing and distributing commissions; of compiling and issuing the Army Register and the Army List and Directory; of consolidating the general returns of the Army; of arranging and preserving the reports of officers of the Army detailed to visit encampments of militia; of compiling and maintaining a list showing the names of officers of the Army on detached service; of managing the recruiting service, and of conducting correspondence concerning the military service generally, including such as pertains to military training camps, rifle practice, the Officers' Reserve Corps, the Reserve Officers' Training Corps, and the Enlisted Reserve Corps. He is also vested with the government and control, under the direction of the Secretary of War, of the United States Disciplinary Barracks and its branches, and all offenders sent thereto for confinement and detention; and is charged with the duty of issuing and recording orders from the War Department remitting or mitigating sentences of general prisoners who have been discharged from the military service, or honorably restoring them to duty. The Adjutant General is vested by law with the charge, under the Secretary of War, "of the military and hospital records of the volunteer armies and the pension and other business of the War Department connected therewith"; of publishing War Department regulations, manuals, and miscellaneous documents pertaining to the military service and distributing to the Army such publications, as well as those publications of a private nature as are useful in the Military Establishment; of obtaining, compiling, and keeping continually up to date all obtainable information as to the names, ages, addresses, occupations, and qualifications for appointment as commissioned officers of the Army, in time of war or other emergency, of men of suitable ages who, by reason of having received military training in civilian educational institutions or elsewhere, may be regarded as qualified and available for appointment as such commissioned officers, and of issuing certificates of enlistment in the Enlisted Reserve Corps. He also has charge of the historical records and business of the permanent Military Establishment, including all pension, pay, bounty, and other business pertaining to or based upon the military or medical histories of former officers or enlisted men, including the consideration of applications for the congressional medal of honor; for the benefits of the act of Congress approved April 27, 1916, establishing the Army and Navy medal-of-honor roll; for certificates of military service, certificates of merit, and certificates authorizing the purchase of campaign badges; and for removal of charges of desertion and the issue of discharge certificates to such soldiers finally charged with desertion as are entitled to relief under the terms of existing law. The archives of The Adjutant General's Office include all military records of the Revolutionary War in the possession of the General Government; the records of all organizations, officers, and enlisted men that have been in the military service of the United States since the Revolutionary War, including those pertaining to the volunteer forces and the National Guard while in the active service of the United States; the records of the movements and operations of troops; the medical and hospital records of the Army; all reports of physical examination of recruits and identification records; the records of the Bureau of Refugees, Freedmen, and Abandoned Lands; and a considerable collection of the Confederate records, including those pertaining to the legislative, executive, and judicial branches of the Confederate Government.

*Publications.*—The Adjutant General's Office distributes the publications to the Army only and not to the general public. The Government Printing Office will furnish on application a list of Army publications for sale.



**Mailing Lists.**—Under the printing and binding laws the publications of this office are distributed by The Adjutant General of the Army, but it is understood that there is no free mailing list maintained in his office.

**Correspondence.**—Correspondence relative to securing copies of publications should be addressed to The Adjutant General of the Army, Washington, D. C.

## OFFICE OF THE PROVOST MARSHAL GENERAL.

**General administrative officials.**—Provost Marshal General, Assistant to the Provost Marshal General, Chief of Division of Distribution, Chief Clerk.

**General information and duties.**—This office was organized in order to conduct the selective draft, under the act of May 18, 1917, entitled, "An Act To authorize the President to increase the Military Establishment of the United States." Approved May 18, 1917.

**Publications.**—This office which was only organized during the summer of 1917 has no publications available for distribution except a copy of the act under which the bureau was created, Public No. 12, Sixty-fifth Congress, first session, H. R. 3545. The report of the Provost Marshal General to the Secretary of War on the first draft under the Selective Service Act, 1917.

## OFFICE OF THE QUARTERMASTER GENERAL.

**Principal administrative officials.**—Quartermaster General, Chief Clerk.

**General information and duties.**—The Quartermaster General, aided by assistants, provides means of transportation of every character, either under contract or in kind, which may be needed in the movement of troops and material of war. It furnishes all public animals employed in the service of the Army, the forage consumed by them, wagons and all articles necessary for their use, and the horse equipments for the Quartermaster Corps. It furnishes clothing, camp and garrison equipage, barracks, storehouses, and other buildings; constructs and repairs roads, railways, bridges; builds and charters ships, boats, docks, and wharves needed for military purposes; supplies subsistence for enlisted men and others entitled thereto; supplies articles for authorized sales and issues; furnishes lists of articles authorized to be kept for sale; gives instructions for procuring, distributing, issuing, selling, and accounting for all quartermaster and subsistence supplies; has charge of the supply and distribution of and accounting for funds for the payment of the Army, and such other financial duties as are specially assigned to it; and attends to all matters connected with military operations which are not expressly assigned to some other bureau of the War Department. The organization of a new bureau of the War Department to be called the Construction Division has recently been effected.

**General publications.**—Report on Fuel Tests and the Issue of Fuel, 1914, made under Direction of the Quartermaster General, by Capt. Frank T. Hines, Quartermaster Corps.

Specifications for Plumbing Fixtures, etc., Prepared by the Board on Uniform Plumbing Specifications for the Treasury, War, and Navy Departments, March 1, 1916.

Circular 13, Office of the Quartermaster General, 1916, Regulations Relating to the Examinations of Enlisted Men of the Army and Civilian Employees of the Quartermaster Corps, for Appointments to the Higher Enlisted Grades of the Quartermaster Corps.

Schedule of Land Grant and Bond-Aided Railroads of the United States. Published in Circular No. 16, Quartermaster General's Office, 1912. Contains list of railroads that were aided in their construction by grant of public land; a compendium of United States laws showing the conditions of the grants or subsidies; and a map showing the land-grant and bond-aided railroads and their principal connections.

Land-grant Percentage Circular. Published in Circular 17, Office of the Quartermaster General, 1915. This circular shows the land-grant percentage deductions applicable on freight and passenger traffic between all important points.

Routing Circular. Published in Circular 16, Office of the Quartermaster General, 1915. This circular shows the location of all military posts and stations in the United States, together with special instructions relative to issuance of bills of lading and transportation requests to such points.

**Freight and Passenger Land-grant Equalization Agreements and Lists of Carriers Participating.** Published in Circular No. 6, Office Chief of the Quartermaster Corps, 1913. This circular shows the nonland grant carriers that have agreed to equalize the lowest net rates available via land-grant lines on Government traffic.

**Manual of Pack Transportation (Daly), 1910.**

**Army Transport Service Regulations.**

**Harbor Boat Regulations.**

**Uniform Regulations.** Published in Circular 7, Office Chief of the Quartermaster Corps, 1912. Transport Service.

**Flag Circular.**

**Uniform Regulations.**

**Uniform Specifications.**

**Specifications and Conditions for Subsistence Supplies.**

**Manual for Army Bakers.**

**Manual for Army Cooks.**

**Manual of Army Horseshoers, 1912.**

**Rules and Regulations for the Office of the Quartermaster General.**

**Manual for the Quartermaster Corps, 1916, revised to December 17, 1917.** Covers clearly and tersely all the activities of the Quartermaster Corps to that date. It includes the aforementioned circulars, Office of the Quartermaster General.

**War Department Correspondence Files,** prepared by cooperative action of the several bureaus of the War Department on the decimal system.

**Official Table of Distances.** This publication gives the distances between places within and without the United States, with notation of any land-grant or land-aided railroad distances obtaining between places within the United States. It constitutes the guide for disbursing offices of the Government generally in paying those travel allowances which are determinable by the number of miles of travel.

**Army Pay Tables.** Gives the rates of pay and allowances to officers and enlisted men of the Army of the United States. It is prepared by the Quartermaster General of the Army, and editions are gotten out from time to time as the occasion demands.

*Method of distribution of general publications.*—Publications referred to above are distributed free to those in the military service, others should apply to Superintendent of Documents.

*Annual and other periodical publications.*—Monthly roster showing stations and duties of officers of the Quartermaster Corps of the Army. (Discontinued.) Semiannually this publication also includes data showing names and stations of quartermaster sergeants, senior grade, quartermaster sergeants, and lists of the United States national cemeteries, together with name of superintendent of each. (Discontinued.) The only annual publication of this office is the yearly report of the Quartermaster General, which is distributed free to those in the military service, and is not sold.

*Maps.*—Maps of lands, buildings, etc., at the military posts are prepared in this office. They are not for sale or general distribution outside of the military service, but copy of any map of a reservation or post can be furnished without charge to other departments of the Government.

*Correspondence.*—Requests by Government officials for publications should be addressed to the Adjutant General of the Army. Requests by the general public should be addressed to Superintendent of Documents, Government Printing Office, Washington, D. C.

## OFFICE OF THE SURGEON GENERAL.

*Principal administrative officials.*—Surgeon General, Chief Clerk.

*General information and duties.*—The Surgeon General is the adviser of the War Department upon all medical and sanitary affairs of the Army. He has administrative control of the Medical Department; the disbursement of its appropriations; the designation of the stations of the commissioned personnel and civilian employees of the Medical Department, and the issuing of all orders and instructions relating to their professional duties; the recruitment, instruction, and control of the enlisted force of the Medical Department and of the Army Nurse Corps. He directs as to the selection, purchase, and distribution of the medical supplies of the Army. The Army Medical Museum, the library of the

Surgeon General's Office, medical supply depots, and the general hospitals are under his direct control.

*General publications.*—Occasional bulletins on professional subjects are prepared for information of medical officers. These bulletins, the editions of which are limited, are not intended for general distribution. They are supplied to medical officers of the Army, the Navy, the Public Health Service, and to some medical colleges and medical libraries. Thus far 10 bulletins have been published, viz :

No. 1. Photomicrographs of Spirochetæ, Entamebæ, Plasmodia, Trypanosomes, Leishmania, Negri Bodies, and Parasitic Helminths. January, 1913.

No. 2. Papers by Officers of the Medical Corps, United States Army, read before the Fifteenth International Congress on Hygiene and Demography. January, 1913.

No. 3. Studies of Syphilis. June, 1913.

No. 4. Disease-Bearing Mosquitoes of North and Central America, the West Indies, and the Philippine Islands. November, 1913.

No. 5. Mental Disease and Defect in United States Troops. March, 1914.

No. 6. The Prophylaxis of Malaria, with Special Reference to the Military Service. August, 1914.

No. 7. Studies in Roentgen-Ray Diagnosis. September, 1914.

No. 8. The Prevalence of Syphilis in the Army. June, 1915.

No. 9. Gunshot Roentgenograms. December, 1915.

No. 10. Officers of the Medical Reserve Corps, United States Army, Inactive List, with Post-office Addresses of Each. December, 1915.

Nos. 1 and 5 editions are exhausted.

*Method of distribution of general publications.*—The publications noted above are distributed free while available. Copies are also for sale by the Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—(a) The Annual Report of the Surgeon General reviews the operations of the Medical Department; remarks upon the health of the Army; and contains statistics of morbidity, mortality, etc., of the Army. Distributed free.

(b) Index-Catalogue of the Library of the Surgeon General's Office comprises an author catalogue and subject index of medical books, journal articles, and pamphlets. The work was begun in 1880, and one volume has been published annually since. The first series (complete alphabet) was composed of 16 volumes, and the second series of 21 volumes, the latter being completed in 1916. Third series, volume 1, will be furnished in 1918. The first series is no longer available for issue, the edition having become exhausted some years ago, and no copies are now on hand of the earlier volumes of the second series. Copies of some of the volumes of the second series are for sale by the Superintendent of Documents at \$2 per volume.

*Correspondence.*—Officer to whom requests for publications should be addressed: The Surgeon General, United States Army, Washington, D. C.

#### ARMY MEDICAL MUSEUM AND LIBRARY.

*Principal administrative officials.*—Curator, Librarian.

#### ARMY MEDICAL SCHOOL.

*Principal administrative officials.*—Commandant, Adjutant.

#### OFFICE OF ATTENDING SURGEON.

*Principal administrative official.*—Attending surgeon.

#### OFFICE OF THE CHIEF OF ENGINEERS.

*Principal administrative officials.*—Chief, seven Principal Assistants, Chief Clerk.

*General information and duties.*—The Chief of Engineers commands the Corps of Engineers, which is charged with reconnoitering and surveying for military purposes, including the laying out of camps, the preparation of military maps of the United States and its possessions, including cooperation with other Government and private mapping agencies, and in field operations, of maps of the theater of operations, selection of sites, and formation of plans and estimates for military defenses, construction and repair of fortifications and their ac-

sories, the installation of electric-power plants and electric-power cable connected with seacoast batteries, and furnishing the necessary electrical supplies connected therewith; planning and superintending of defensive or offensive works of troops in the field; examination of routes of communications for supplies and for military movements; construction and repair of military roads, railroads, and bridges; and military demolitions. In time of war, within the theater of operations, the Corps of Engineers has charge of the location, design, and construction of wharves, piers, landings, storehouses, hospitals, and other structures of general interest; and of the construction, maintenance, and repair of roads, ferries, bridges, and incidental structures; and of the construction, maintenance, and operation of railroads under military control, including the construction and operation of armored trains.

*The Corps of Engineers* is also charged with the improvement of rivers and harbors, including examinations and surveys relating thereto; with works of flood control; with matters arising under the laws for the protection and preservation of navigable waters, including the establishment of harbor lines, anchorage grounds, and rules and regulations therefor; rules and regulations for canals owned, operated, or maintained by the United States, for any public navigable channel improved under authority of Congress, and for the navigation of streams on which the floating of loose timber and sack rafts is the principal method of navigation; also with the issuance of permits for the construction, alteration, maintenance, and operation of bridges, the granting of permits for structures or work in navigable waters; with the removal of wrecks and other obstructions to navigation; with questions pertaining to the supervision of the harbor of New York and adjacent waters to prevent obstructive and injurious deposits; with surveying and charting the Great Lakes, the natural navigable waters of the New York State canals, Lake Champlain, the Lake of the Woods, and other boundary and connecting waters between said lake and Lake Superior; with the preservation of Niagara Falls; with public buildings and grounds in the District of Columbia; with the water supply of Washington, D. C.; with the construction of monuments and memorials; and with the construction of roads and bridges in the Yellowstone and Crater Lake National Parks, and in Alaska.

*The Board of Engineers for Rivers and Harbors* is a permanent body created by the river and harbor act of June 13, 1902. To it are referred for consideration and recommendation all reports upon examinations and surveys provided for by Congress, and all projects or changes in projects for works of river and harbor improvement upon which report is desired by the Chief of Engineers, United States Army. It is further the duty of the board, upon request by the Committee on Commerce of the Senate, or by the Committee on Rivers and Harbors of the House of Representatives in the same manner, to examine and report through the Chief of Engineers upon any examinations, surveys, or projects for the improvement of rivers and harbors. In its investigations the board gives consideration to all engineering, commercial, navigation, and economic questions involved in determining the advisability of undertaking such improvements at the expense of the United States.

*General publications.*—Federal laws relating to the improvement of rivers and harbors; standards for dredging; laws regarding the bridging of navigable waters; drainage areas and surface levels of the Great Lakes; professional papers of the Corps of Engineers, United States Army; rules and regulations relating to the navigable waters of the United States with the exception of those for the Northern and Northwestern lakes and their connecting and tributary waters, which are printed in the United States Lake Survey Bulletins; laws for the protection and preservation of the navigable waters of the United States, etc.

*Methods of distribution of general publications.*—Either by purchase from the Superintendent of Documents or upon application to the Chief of Engineers, United States Army.

*Annual and other periodical publications.*—Bulletins and supplements relating to surveys of the Northern and Northwestern Lakes are published to supply the detailed descriptions of shore line and shoals, river and harbor improvements, results of surveys, magnetic determinations, and the particulars of constantly changing conditions on the Great Lakes which can not be fully or promptly shown by the Lake Survey charts. These documents are issued free to navigators and other chart purchasers. Supplements are published monthly during the navigation season (May to November).

Applications for bulletins or supplements may be made to any of the following offices: United States Lake Survey Office, Old Customhouse, Detroit, Mich.;

United States Engineer Office, 540 Federal Building, Buffalo, N. Y.; United States Engineer Office, 467 Broadway, Albany, N. Y.; United States Engineer Office, 710 Army Building, New York City; and United States Canal Office, Sault Ste. Marie, Mich. Other publications are as follows:

Statement of Floating Plant Owned by the United States and Employed in the Engineer Department at Large.

Annual Report of the Chief of Engineers, United States Army. Published yearly as a congressional document, also as a War Department document. Issued by the Chief of Engineers, and on sale by the Superintendent of Documents.

List of Civilian Engineers Employed on River and Harbor Works. Published yearly as a congressional document. Issued by the Chief of Engineers, and on sale by the Superintendent of Documents.

Abstract of Proposals for Labor and Material, for the Engineer Department. Published yearly as a congressional document. Issued by the Chief of Engineers, also on sale by the Superintendent of Documents.

Commerce through St. Mary's Falls Canal (Soo). Published yearly, and issued by the United States Engineer Office, Detroit, Mich.

Professional Memoirs. Published bimonthly at the Engineer School, Washington Barracks, Washington, D. C. Subscription price \$3 per year.

Occasional Papers, Engineer School, United States Army, Nos. 1 to 51. Application should be made to the Engineer School, Washington Barracks, Washington, D. C.

Statistical Report for Duluth-Keweenaw Waterway. Issued annually by the United States Engineer Office, Duluth, Minn.

*Indexes to publications.*—Index to the Annual Reports of the Chief of Engineers, United States Army, 1866 to 1912. Published in 2 vols. 2846 pp., with finding lists, issued by the Chief of Engineers; also on sale by the Superintendent of Documents (H. Doc. No. 740, 63d Cong., 2d sess.).

Index to Preliminary Examinations, Surveys, Projects, and Appropriations for Rivers and Harbors, from establishment of the Government to March 4, 1915, in 1 vol. Published as House Document No. 1491, Sixty-third Congress, third session. Issued by the Chief of Engineers, also on sale by the Superintendent of Documents.

*Mailing lists.*—No free mailing lists are maintained, except for a few libraries and institutions.

*Maps.*—Charts of the Northern and Northwestern Lakes. (A series of general and detailed charts showing the Great Lakes and their connecting and tributary waters from the head of Lake Superior to St. Regis at the United States boundary on the St. Lawrence, also the New York State canals, and Lake Champlain. Prepared for the use of navigators. On June 30, 1916, the series comprised 116 charts; sold at prices ranging from 10 cents to 30 cents.)

The charts may be purchased by anyone at any of the following offices, from which a descriptive catalogue may be obtained free of charge: United States Lake Survey Office, Old Customhouse, Detroit, Mich.; United States Engineer Office, 540 Federal Building, Buffalo, N. Y.; United States Engineer Office, 467 Broadway, Albany, N. Y.; United States Engineer Office, 710 Army Building, New York City; and United States Canal Office, Sault Ste. Marie, Mich.

Maps of Charts of Rivers, Harbors, Lakes, and Canals, from Examinations and Surveys; Approved Harbor Lines; Plans of Works of Navigation. Issued by the Chief of Engineers, United States Army. Description and prices made known on application.

*Correspondence.*—Requests for publications should be addressed to the Chief of Engineers, United States Army, Washington, D. C.

#### BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

*Principal administrative officials.*—Seven members, Assistant Engineer and Secretary, Chief Clerk.

#### OFFICE OF PUBLIC BUILDINGS AND GROUNDS.

*Principal administrative officials.*—Chief, Assistant Chief, Superintendent of Parks.

#### MISSISSIPPI RIVER COMMISSION.

(St. Louis, Mo.)

*Principal administrative officials.*—President, six members, Secretary, Disbursing Officer, Chief Clerk.

## CALIFORNIA DÉBRIS COMMISSION.

(San Francisco, Cal.)

*Principal administrative officials.*—Three members, Chief Clerk.

## OFFICE OF THE CHIEF OF ORDNANCE.

*Principal administrative officials.*—Chief, Assistant, Chief Clerk.

*General information and duties.*—The Chief of Ordnance commands the Ordnance Department, the duties of which consist in providing, preserving, distributing, and accounting for every description of artillery, small arms, ammunition, and equipment, required for the fortresses of the country, the armies in the field, and for the whole body of the militia of the Union. In these duties are comprised that of determining the general principles of construction and of preserving in detail the models and forms of all military weapons employed in war. They comprise also the duty of prescribing the regulations for the proof and inspection of all these weapons, for maintaining uniformity and economy in their fabrication, for insuring their good quality, and for their preservation and distribution.

*General publications.*—Numerous pamphlets of specifications, progress reports, and inspection reports are issued; pamphlets descriptive of guns of all kinds, gun carriages, various kinds of motor equipment; field and coast artillery; position and range finders; ammunition including types of projectiles; explosives; instruments for observation, etc.; price lists, and catalogue of ordnance equipment and material.

*Method of distribution.*—General publications are sold by the Superintendent of Documents, Washington, D. C.

*Annual and other periodical publications.*—(a) Annual Report of the Chief of Ordnance; (b) Annual Report of the Tests of Metals and Other Materials made with the United States Testing Machine at Watertown Arsenal, Mass.

*Mailing lists.*—Copies of the "Report of the Chief of Ordnance" and of "Tests of Metals, etc.," are issued gratuitously to other bureaus of the Government, to libraries, and to technical institutions.

*Correspondence.*—Other bureaus of the Government, libraries, and technical institutions should address the Chief of Ordnance or The Adjutant General for copies of the "Report of the Chief of Ordnance," and The Adjutant General for copies of the "Report of the Tests of Metals, etc." Others can purchase these two publications and all other publications listed from the Superintendent of Documents, to whom all communications should be addressed.

## OFFICE OF THE CHIEF SIGNAL OFFICER.

*Principal administrative officials.*—Chief, Assistant, Chief Clerk.

*General information and duties.*—The Chief Signal Officer shall have charge, under the direction of the Secretary of War, of all military signal duties and of books, papers, and devices connected therewith, including telegraph and telephone apparatus and the necessary meteorological instruments for use on target ranges and for other military uses; of the construction, repair, and operation of military telegraph lines and the duty of transmitting messages for the Army, by telegraph or otherwise, and of all other duties usually pertaining to military signaling and the operations of such corps as shall be confined to strictly military matters; of the direction of the Signal Corps of the Army and the control of the officers, enlisted men, and employees attached thereto; of the supply, installation, repair, and operation of military cables, telegraph and telephone lines, and radio apparatus and stations; of the supply, repair, and operation of field telegraph trains, and balloon trains; of the preparation and revision of the War Department Telegraph Code; of the supervision of such instruction in military signaling, telephony, and telegraphy as may be prescribed in orders from the War Department, except such as is used by the Coast Artillery in fire control and fire direction and service of submarine mines; of the procurement, preservation, and distribution of the necessary supplies for the Signal Corps and of the procurement and issue of signal equipment required in coast defense.

**General publications.**—Manuals: Regulations for United States military telegraph and cable lines; Army radio stations; technical equipment of the Signal Corps; signal book United States Army; radio telegraphy; visual signaling cards.

**Methods of distribution of general publications.**—The above publications are distributed free by The Adjutant General of the Army to units of the Army as authorized by the Secretary of War; sold by the Superintendent of Documents, Government Printing Office, Washington, D. C.

**Annual and other periodical publications.**—(a) Annual Report of the Chief Signal Officer of the Army; (b) Report of the Operations of the Signal Corps, United States Army. Distributed free.

**Mailing lists.**—Mailing list for the Annual Report of the Chief Signal Officer of the Army is maintained.

**Correspondence.**—Requests for publications for sale should be addressed to Superintendent of Documents, Government Printing Office, Washington, D. C. Requests for those for free distribution to Chief Signal Officer of the Army, Washington, D. C.

## BUREAU OF INSULAR AFFAIRS.

**Principal administrative officials.**—Chief of Bureau of Insular Affairs, Assistant to Chief of Bureau, Chief Clerk.

**General information and duties.**—To the Bureau of Insular Affairs, under the immediate direction of the Secretary of War, is assigned all matters pertaining to civil government in the island possessions of the United States, subject to the jurisdiction of the War Department, the Philippine Islands and Porto Rico being the only ones so subject at the present time. The bureau is also the repository of the civil records of the government of occupation of Cuba (Jan. 1, 1899, to May 20, 1902), and had assigned to it matters pertaining to the provisional government of Cuba (Sept. 29, 1906, to Jan. 28, 1909). It makes a comptroller's review of the receipts and expenditures of the Philippine and Porto Rican Governments; attends to the purchase and shipment of supplies for those Governments; has charge of appointments of persons in the United States to the Philippine civil service and arranges their transportation. It gathers statistics of insular imports and exports, shipping and immigration, and issues semiannual summaries of the same. Under the convention of February 8, 1907, and the general regulations of the President of the United States issued thereunder, the bureau has immediate supervision and control of the Dominican receivership for the collection of customs revenues and payment of the interest and principal of the adjusted bonded indebtedness of the Dominican Republic, and in some respects acts as the agent in the United States of the receivership.

**General publications.**—Immediately following the Spanish-American War this office issued as its first publications (long since out of print) the following classes of pamphlets: (a) Customs tariffs of Cuba, Porto Rico, and the Philippines; (b) Translations of the Spanish laws of those islands.

At a later date there were published under its auspices: (c) Reports of the Census of Porto Rico, 1899; (d) Census of Cuba; (e) Gazetteer of the Philippine Islands.

**Annual and periodical publications.**—(a) Monthly Summary of Commerce of Porto Rico, from July, 1899, to April 30, 1900.

(b) Monthly Summary of Commerce of Cuba, from July, 1899, to May 19, 1902.

(c) Philippine Summary of Commerce. This was issued as a monthly from July, 1899, to December, 1905; then as a quarterly from January–March, 1906, to April–June, 1911; then as a semiannual until December, 1912, and to round out the fiscal year the last issue took the form of an annual, covering the period July, 1912, to June, 1913.

(d) Annual Report of the Chief of Bureau. (Embraced in War Department Annual Report.)

(e) Annual Report of the Philippine Commission. (Embraced in War Department Annual Report.)

(f) Annual Report of the Governor of Porto Rico. (Embraced in War Department Annual Report.)

(g) Annual Report of the General Receiver of Customs, Dominican Republic.

(h) Annual Summary of Dominican Commerce.

*List of publications.*—There is no printed list of the publications which are for distribution by the bureau.

*Maps.*—Two-sheet map of the Philippine Islands, 1902, editions of January, September, and October. One sheet map of the Philippine Islands, 1904.

*Mailing lists.*—Free mailing lists for publications of the bureau are maintained by the Superintendent of Documents—Key Lists Nos. 600, 601, 603.

*Congressional publications.*—The Bureau of Insular Affairs has compiled and issued from time to time a series of publications containing the acts of Congress, treaties, proclamations, decisions of the Supreme Court, and opinions of the Attorney General relating to noncontiguous territory—Cuba and Santo Domingo, Philippines, Hawaii, Porto Rico, Samoan Islands, Guam, Alaska, Canal Zone, Midway Islands, and Tutuila.

## GOVERNMENT OF THE PHILIPPINE ISLANDS.

(Headquarters, Manila.)

*Principal administrative officials.*—Governor General, Vice Governor, Secretary of Public Instruction, Secretary of the Interior, Secretary of Commerce and Communications, Secretary of Justice, Secretary of Finance, Secretary of Agriculture and Natural Resources.

*Reports, periodicals, etc.*—The following documents and journals have been published: (a) Philippine Commission (or Schurman Commission), 1899–1900. 4 vols. Issued as Senate Document 138, 56th Congress, 1st session.

(b) Philippine Commission (of 1900, or "Taft" Commission). Annual Reports, 1900 to 1915. Act of Congress, August 29, 1916, abolished the Philippine Commission. Report for 1916 made by Governor General. These reports are all congressional publications, and since 1901 have been issued yearly as a portion of the report of the War Department.

(c) Acts of the Philippine Commission (1900–1907). During the period indicated the commission acted as the legislature of the Philippines, and the acts were annually transmitted to Congress and formed portions of the War Department reports for the years 1901 to 1907. (For details see Price List No. 32 of the Superintendent of Documents, 4th ed., p. 24.)

(d) Acts of the Philippine Legislature (organized October 16, 1917, and composed of the Philippine Commission and the Philippine Assembly). Annual volume excepting that the Session Laws for the session of October, 1915, to February, 1916, and October, 1916, to February, 1917, requires two volumes each.

(e) Official Gazette. Issued weekly in English and Spanish. \$6 per annum.

(f) Agricultural Review. Issued quarterly. \$1 per annum.

(g) The Philippine Farmer. Published monthly in English and Spanish.

(h) Journal of Science. Issued bi-monthly in four sections: A. Chemical and geological sciences and industries; B. Tropical medicine; C. Botany; D. Ethnology, anthropology, and general biology. All sections, \$7 per annum; sections A, C, and D, each \$2; section B, \$3.

(i) The Philippine Craftsman. Issued monthly during the school year. Devoted to industrial education and paying especial attention to Philippine handicraft industries. \$1.50 per annum.

(j) Journal of the House of Representatives.

(k) Diario de Sesiones de la Asamblea Filipina.

(l) Annual reports of certain bureaus, such as Civil Service, Internal Revenue, Customs, and Education.

(m) Mineral Resources. Issued annually by the Bureau of Science.

(n) Executive Orders of the Governor General. Issued annually.

(o) Official Roster of Employees. Issued annually.

(p) Philippine Supreme Court Reports.

(q) Acts of the Philippine Commission. Annotated edition.

(r) Acts of the Philippine Legislature. Annotated edition.

The Bureaus of Science, Education, Agriculture, Public Works, Weather, Health, Customs, Internal Revenue, and Constabulary have issued bulletins relating to their several activities.

In 1903 the Philippine Government published an Official Handbook of the Philippines, containing a description of the Philippines. It was issued in conjunction with a catalogue of the Philippine Exhibit at the St. Louis Exposition. In 1912 an official handbook was issued entitled "The Philippines—the Land of the Palm and Pine."



*List of publications.*—A "Price List of Public Documents for Sale by the Bureau of Printing, Manila, P. I., was issued in 1917. This price list deals with the more general publications and does not include bulletins, etc., issued for the use of the various bureaus, numbers of which are not out of print.

### GOVERNMENT OF PORTO RICO.

(Headquarters, San Juan.)

*Principal administrative officials.*—Governor, Attorney General, Treasurer, Commissioner of the Interior, Commissioner of Education, Commissioner of Agriculture and Labor, Commissioner of Health, Executive Secretary.

*Reports, periodicals, etc.*—Under the act of Congress approved April 12, 1900, the reports of the administrative officers in Porto Rico required were to be made through the following channels:

Officer.	Report made to—	Transmission to Congress.
Governor.....	President, through the Secretary of State.....	Annually. Do. Do. Do. Do.
Attorney General.....	United States Attorney General.....	
Treasurer.....	United States Secretary of Treasury.....	
Auditor.....	United States Secretary of Treasury.....	
Commissioner of the Interior.....	United States Secretary of Interior.....	
Commissioner of Education.....	United States Commissioner of Education.....	

Secretary to transmit, within 60 days after close of each session of the legislative assembly, copy of laws and journals of such session to President of the Senate, the Speaker of the House, President, and Secretary of State.

Acts of the legislative assembly to be reported to Congress.  
All franchises granted to be reported to Congress.

The various reports so transmitted, so far as published at Washington, were issued as Congressional Documents of the Fifty-sixth to Sixty-first Congresses.

Under the acts of Congress approved July 15, 1909, and March 2, 1917, all the required reports are made through the Bureau of Insular Affairs of the War Department, and the various annual reports are issued in a volume called "Report of the Governor of Porto Rico," which also forms a portion of the Annual Report of the War Department.

The journals of the legislative assembly, the laws enacted, and the franchises granted are transmitted to Congress through the Bureau of Insular Affairs, and, in general, have been issued as congressional documents.

Under this arrangement the government of Porto Rico distributes in that island such number of copies of the annual reports of the various officials as may be required, and the Bureau of Insular Affairs makes free distribution, so far as its supply of copies permits, in the United States.

In addition to the foregoing the Porto Rican Government has issued, among others, the following publications:

(a) Register of Porto Rico. A handbook of the island, including general information as to municipalities, officials, etc., issued for the years 1901, 1903, 1905, 1910, and 1911.

(b) Official Gazette. Originally issued for the period January to March, 1909; containing session laws, orders, circulars, etc. Its desirability led to the resumption of its publication as a monthly in March, 1910, and it was continued until January, 1914; issue discontinued owing to lack of available funds.

(c) Opinions of the Attorney General of Porto Rico. Issued at irregular intervals. Five volumes have been published. Vol. I, March 14, 1901, to March 11, 1903, \$2; Vol. II, May 31, 1910, to May 10, 1913, \$2.64; Vol. III, February 1, 1912 (date of publication), \$4.19; Vol. IV, February 1, 1911, to July 1, 1914, \$2.22; Vol. V, July 1, 1914, to August 31, 1915, \$2.66.

(d) Porto Rico Reports. Reports of cases adjudged in the Supreme Court of Porto Rico. Vols. 1 to 13, \$2.50 each; vols. 14 to 24 (the latest issued), \$4 each.

(e) Official Roster of Officials and Employees. Issued in 1908, 1912, 1913, 1914, and 1915.

### DOMINICAN RECEIVERSHIP.

(Headquarters, Santo Domingo.)

*Principal administrative officials.*—General Receiver of Customs, Deputy General Receiver.

## PART IV.—DEPARTMENT OF JUSTICE.

(For location of department, see page 188.)

*Principal administrative officials.*—Attorney General, Solicitor General, Assistant to the Attorney General, Assistant Attorneys General, Assistant Attorney General, Customs Division, New York City, Chief Clerk, Private Secretary to the Attorney General, Disbursing Clerk, Appointment Clerk, Attorney in Charge of Pardons, Attorney in Charge of Titles, Chief of Division of Accounts, Superintendent of Prisons, Chief Division of Investigation, Librarian. Departmental solicitors:<sup>1</sup> Solicitor for the Department of State, Solicitor of the Treasury, Solicitor for the Interior Department, Solicitor for the Post Office Department, Solicitor of Internal Revenue, Solicitor of the Department of Commerce, Solicitor of the Department of Labor.

### GENERAL INFORMATION AND DUTIES.

*The Attorney General* is the head of the Department of Justice and the chief law officer of the Government. He represents the United States in matters involving legal questions; he gives his advice and opinion, when they are required by the President or by the heads of the other executive departments, on questions of law arising in the administration of their respective departments; he appears in the Supreme Court of the United States in cases of especial gravity and importance; he exercises a general superintendence and direction over United States attorneys and marshals in all judicial districts in the States and Territories; and he provides special counsel for the United States whenever required by any department of the Government.

*The Solicitor General* assists the Attorney General in the performance of his general duties, and, by special provision of law, in case of a vacancy in the office of the Attorney General, or of his absence or disability, exercises all those duties. Under the direction of the Attorney General, he has general charge of the business of the Government in the Supreme Court of the United States, and is assisted in the conduct and argument of cases therein by the Assistant Attorneys General. He also, with the approval of the Attorney General, prepares opinions rendered to the President and the heads of the executive departments, and confers with and directs the law officers of the Government throughout the country in the performance of their duties. When the Attorney General so directs, any case in which the United States is interested, in any court of the United States, may be conducted and argued by the Solicitor General; and he may be sent by the Attorney General to attend to the interests of the United States in any State court or elsewhere.

*The Assistant to the Attorney General* has special charge of all suits and other matters arising under the Federal antitrust and interstate-commerce laws, and performs such other duties as may be required of him by the Attorney General.

*The several Assistant Attorneys General* assist the Attorney General in the performance of his duties; in the argument of cases in the Supreme Court; and in the preparation of legal opinions.

In addition to these general duties particular subjects are assigned to them, and, under the direction of the Attorney General, they transact the business arising under these subjects with United States attorneys, other departments, and private parties in interest.

The Assistant Attorney General in charge of the the interests of the Government in all matters of reappraisalment and classification of imported goods in litigation before the several boards of United States General Appraisers and the Court of Customs Appeals is located at 641 Washington Street, New York.

The solicitors for several of the executive departments, under the provisions of sections 349-350, Revised Statutes, exercise their functions under the supervision and control of the Attorney General. They are the Solicitor for the

<sup>1</sup> See department for respective solicitors.

Department of the Interior, the Solicitor for the Department of State, the Solicitor of the Treasury, the Solicitor of Internal Revenue, the Solicitor of the Department of Commerce, and the Solicitor of the Department of Labor.

*The Solicitor for the Interior Department* is the chief law officer of that department. When requested he advises the Secretary and Assistant Secretaries upon questions of law arising in the administration of the department. All appeals from the various bureaus are sent to his office for consideration. Oral arguments are heard by him in the more important cases; and decisions are prepared under his supervision for the signature of the Secretary or First Assistant Secretary, as the case may be. The solicitor is aided in this and his other work by the Board of Appeals and 25 assistant attorneys.

*The Solicitor for the Department of State* is the chief law officer of that department. He advises the Secretary and Assistant Secretaries upon questions of municipal and international law referred to him, passes upon claims of citizens of the United States against foreign Governments, claims of subjects or citizens of foreign Governments against the United States, and upon applications for the extradition of criminals. The assistant solicitor acts as solicitor in the absence of the latter, and in the division of the work of the office has general charge of extradition and citizenship matters.

*The Solicitor of the Treasury* is the chief law officer of that department. His duties are to advise the Secretary of the Treasury and other officers of that department upon matters of law arising therein; to approve the bonds of United States Treasurers, collectors of internal revenue, and to examine all contracts of, and official bonds filed in, the Treasury Department. He also examines titles to life-saving station sites and renders such legal services in connection with matters arising in the administrative work of the Treasury Department as may be required of him by the Attorney General.

A *Solicitor of Internal Revenue* was added to the Internal-Revenue Office corps by the act of July 13, 1866 (14 Stat., 170), but by the act of June 22, 1870 (16 Stat., 162), organizing the Department of Justice, the solicitor was formally transferred to that department. He is the law officer and legal advisor of the commissioner. The only duties of his of which mention is made by law are in connection with internal-revenue compromise cases, section 3229, Revised Statutes.

*The Solicitor of the Department of Commerce* is the chief law officer of that department. His duties are to act as legal adviser for the Secretary of Commerce and the chiefs of the various bureaus of said department; to prepare and examine all contracts and bonds entered into or required by the said department; and to render such legal services in connection with matters arising in the administrative work of the Department of Commerce as may be desired by the head of the department or required of him by the Attorney General.

*The Solicitor of the Department of Labor* is the chief law officer of that department. His duties are to act as legal adviser for the Secretary of Labor and the chiefs of the various bureaus of said department; to prepare and examine all contracts and bonds entered into or required by said department; and to render such legal services in connection with matters arising in the administrative work of the Department of Labor as may be desired by the head of the department or required of him by the Attorney General.

*The Public Lands Division* was created by the Attorney General November 16, 1900. To it are assigned all suits and proceedings concerning the enforcement of the public-land law, including suits or proceedings to set aside conveyances of allotted lands.

*The Superintendent of Prisons* has charge, under the direction of the Attorney General, of all matters relating to United States prisons and prisoners, including the support of such prisoners in both State and Federal penitentiaries, in reform schools, and in county jails. He has supervision over the construction work in progress at United States penal institutions.

The Superintendent of Prisons is president of the boards of parole for the United States penitentiaries and president of the boards of parole for United States prisoners in each State or county institution used for the confinement of United States prisoners.

*The Attorney in Charge of Pardons* takes charge of all applications for Executive clemency, except those in Army and Navy cases, these being referred to the Secretary of War and the Secretary of the Navy, respectively; of the briefing of the cases and the correspondence in relation to them.

*The Attorney in Charge of Titles* prepares opinions upon the title to lands belonging to or sought to be acquired by the Government for public purposes

and opinions upon all legal matters growing out of the same. He has charge of all proceedings to acquire land under eminent domain, and conducts all the correspondence relating to the above matters.

*The Chief of the Division of Investigation* has general supervision of the examination of the offices and records of the Federal court officials throughout the United States, and directs the work of all the examiners, special agents, and accountants of the department, whose compensation or expenses are paid from the appropriation "Detection and prosecution of crimes," and who are employed for the purpose of collecting evidence or of making investigations or examinations of any kind for this department or the officers thereof.

## PUBLICATIONS.

*General publications.*—Opinions of the Attorneys General. A volume is printed and bound when sufficient opinions have been rendered to make 600 pages. This usually requires from one and a half to two years. Volume 29 is the last one in print. Many of the earlier volumes were printed by private publishers and are now out of print and can not be obtained from any source known to the department.<sup>1</sup>

*Federal Antitrust Decisions.* The latest compilation of these decisions was made by the Attorney General by direction of Congress. The set consists of four volumes with a small fifth volume which is an index digest. The volumes contain, as the title suggests, the decisions of the Federal courts interpreting the antitrust acts.

*Method of distribution of general publications.*—Opinions of the Attorneys General. The department orders only sufficient copies to meet the needs of its officials and to supply the executive departments. Many of the early volumes were published by private parties and are now out of print. Copies of the more recent volumes are for sale by the Superintendent of Documents, Government Printing Office.

*Federal Antitrust Decisions.* While these decisions were compiled by the Attorney General at the direction of Congress the department received no copies, but had to purchase such as it needed from the Superintendent of Documents. The department therefore does not distribute them.

*Annual and other periodical publications.*—An Annual Report is submitted at the beginning of each Congress. This report contains a résumé of the more important activities of the department during the year, including cases finally determined, pending cases, interstate commerce cases, cases having to do with enforcement of land laws, white-slave traffic, neutrality, banking laws, bankruptcy, election frauds, and peonage, pardons, parole, Court of Claims cases, customs courts and the Supreme Court, and criminal identification, statistical tables relating to bankruptcy matters, prisoners, traveling expenses, court expenses, statements of appropriations, etc.

A Register is published once every year, as a rule. It contains the names of the principal officers of the department in Washington, and of the officers of the United States courts, places and time of holding United States courts, the judicial circuits and districts, and a brief statement of the duties of the officers of the department.

*Method of distribution.*—The distribution covers Congress, the Executive Department, the department officials in the field, and a few other institutions and individuals. After this distribution is made the supply only justifies a further limited distribution to persons who may apply for a copy and who are interested in the activities of the department. Copies may be purchased from the Superintendent of Documents.

*Mailing lists.*—On the mailing lists for the Annual Report and Opinions of the Attorney General a number of libraries are carried. The department maintains no general free mailing list.

*Correspondence.*—Requests for the above publications should be addressed to the Attorney General, Washington, D. C.

<sup>1</sup> For publications issued by the Solicitor of the Treasury, see p. 27; by the Solicitor of the Post Office, see p. 47; by the Solicitor of the Department of Labor, see p. 116.

## PART V.—POST OFFICE DEPARTMENT.

(For location of department, offices, etc., see page 188.)

### OFFICE OF THE POSTMASTER GENERAL.

*Principal administrative officials.*—Postmaster General, Chief Clerk, Special Assistant to Attorney General, Solicitor, Purchasing Agent, Chief Inspector.

*General information and duties.*—The *Postmaster General* is the executive head of the Federal Postal Service. He appoints all officers and employees of the Post Office Department except the four Assistant Postmasters General and the purchasing agent, who are presidential appointees. With the exception of postmasters of the first, second, and third classes, who are likewise presidential appointees, he appoints all postmasters, and all other officers and employees of the service at large. Subject to the approval of the President, he makes postal treaties with foreign Governments. He awards and executes contracts and directs the management of the Foreign Mail Service. He is the executive head of the Postal Savings System, and ex officio chairman of the board of trustees of that system.

The *Special Assistant to the Attorney General* is charged with the duty of assisting in the defense of cases against the United States arising out of the transportation of the mails, and in other matters affecting the postal revenues. These include suits in the Federal courts involving claims of the railroads and other contractors for the carriage of the mails; the representation of the Postmaster General and the preparation and presentation of the department's cases in proceedings before the Interstate Commerce Commission for the determination by the commission of the basis for adjustment of railroad-mail pay and the fixing of fair and reasonable rates for the transportation of the mails and for services in connection therewith by railroads, and in other matters of petition by the Postmaster General to the commission; and the representation of the Postmaster General in hearings before the department on orders changing the mode of transporting periodical mail matter and in connection with reviews of such orders by the Court of Appeals of the District of Columbia.

The *Solicitor* is charged with the duty of giving opinions to the Postmaster General and the heads of the several offices of the department upon questions of law arising upon the construction of the postal laws and regulations, or otherwise, in the course of business in the Postal Service; with the consideration and submission (with advice) to the Postmaster General of all claims of postmasters for losses by fire, burglary, or other unavoidable casualty, and of all certifications by the Auditor for the Post Office Department of cases of proposed compromise of liabilities to the United States, and of the remission of fines, penalties, and forfeitures under the statutes; with the giving of advice when desired in the preparation of correspondence with the Department of Justice and other departments, including the Court of Claims, involving questions of law or relating to prosecutions or suits affecting or arising out of the Postal Service, and with assisting when desired in the prosecution or defense of such cases, and the maintenance of suitable records of opinions rendered affecting the Post Office Department and the Postal Service; and with the consideration of applications for pardon for crimes committed against the postal laws which may be referred to the department; with the preparation and submission (with advice) to the Postmaster General of all appeals to him from the heads of the offices of the department depending upon questions of law; with the determining of questions as to the delivery of mail, the ownership of which is in dispute; with the hearing and consideration of cases relating to lotteries and the misuse of the mails in furtherance of schemes to defraud the public; with the consideration of all questions relating to the mailability of alleged indecent, obscene, scurrilous, or defamatory matter; with determining the legal

acceptability of securities offered by banks to secure postal savings deposits; with the examining and, when necessary, drafting of all contracts of the department; with the enforcement of laws making unmailable matter containing any advertisement of intoxicating liquors or solicitation of an order for such liquors when addressed to places where it is unlawful to advertise or solicit orders for such liquors; with the legal work incident to the enforcement of those provisions of the espionage law and of the trading-with-the-enemy act which concerns the Post Office Department, and the work relating to the issuance of permits under the latter act; and with such other like duties as may from time to time be required by the Postmaster General.

*The Purchasing Agent* supervises the purchase of all supplies both for the Post Office Department proper and for all branches of the Postal Service. He reviews all requisitions and authorizations for supplies and, if proper, honors the same. He passes upon the sufficiency and propriety of all specifications for the proposals for supplies; prepares the advertisements and forms for proposals necessary to the making of contracts for supplies; reviews the reports of the committees on awards and recommends to the Postmaster General such action as in his judgment should be taken thereon.

*The Chief Inspector* supervises the work of post-office inspectors and of the division of post-office inspectors. To him is charged the preparation and issue of all cases for investigation, all matters relating to deprecations upon the mails and losses therein, the custody of money and property collected or received by inspectors, and the restoration thereof to the proper parties or owners, and the consideration and adjustment of accounts of inspectors for salary and expenses. To his office are referred all complaints of losses or irregularities in the mails and all reported violations of the postal laws.

*General publications.*—(a) Postal Laws and Regulations. A compilation of the acts of Congress relating to the Post Office Department and the Postal Service, together with regulations for the government of said department and service. Furnished free to the Postal Service. For sale to the public.

(b) Pamphlet of Postal Information. Contains general information on subjects relating to the Postal Service; published for the use and guidance of the public. Distribution free.

(c) List of Awards. Shows name of the contractor, various items and prices to be paid therefor for the use of the Postal Service during the fiscal year in which said award is issued. Distribution free upon request. It has been the practice to furnish a copy to all bidders whether successful or not.

*Annual and other periodical publications.*—Annual Report of the Postmaster General is a general review of the work of the entire department, with special regard to specific policies, recommendations for legislation affecting the service, etc. Distribution free.

The Annual Report of the Post Office Department contains reports of the Postmaster General, Solicitor, the Four Assistants, and the Auditor, bound in one volume. Distribution free.

The Official Postal Guide contains postal information of interest to the public, instructions to postal employees, rulings of the department, lists of post offices arranged alphabetically, by States, and by counties, also a list classified as to salaries of postmasters, a list of offices discontinued during the previous three years, etc. Published annually, with monthly supplements. Furnished to the Postal Service. For sale to the public.

*Correspondence.*—(a) Requests for copies of the Postal Laws and Regulations should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C.

(b) Requests for the Pamphlet of Postal Information should be sent to the Division of Equipment and Supplies, Office of the Fourth Assistant Postmaster General, Washington, D. C.

(c) Requests for copies of List of Awards should be addressed to the Purchasing Agent, Post Office Department, Washington, D. C.

Requests for the Annual Report of the Postmaster General should be sent to the Chief Clerk, Post Office Department, Washington, D. C.

Requests for the Official Postal Guide from those outside the postal service should be sent to the Disbursing Clerk, Post Office Department, Washington, D. C.

The Chief Clerk, Post Office Department, is in charge of the distribution of the Postal Guide throughout the postal service.

## SOLICITOR OF POST OFFICE DEPARTMENT.

*Publications.*—The only publication issued is the Annual Report of the Solicitor covering the work done during year. Gives claims for credit for stamps or funds lost by fire, burglary, etc., construction of postal laws and regulations, rulings as to disputed mail; mallability of matter; lottery and fraudulent schemes, etc. This report is now included in the Annual Report of the Postmaster General. Requests for copies of the Annual Report of the Solicitor should be addressed to the "Post Office Department, Washington, D. C."

OFFICE OF THE FIRST ASSISTANT POSTMASTER  
GENERAL.

*Principal administrative officials.*—First Assistant Postmaster General; Chief Clerk; Superintendents of Divisions: Postmasters' Appointment, Post-office Service, Dead Letters.

*General information and duties.*—The First Assistant Postmaster General has charge of the following divisions, to which are assigned the duties specified:

*Postmasters' appointments.*—The preparation of cases for the appointment of postmasters, the change of name of post offices, and the establishment, discontinuance, and change of site of post offices of the fourth class; the recording of appointments of postmasters, the obtaining, recording, and filing of their oaths and bonds, and the issuing of their commissions; the consideration of charges and complaints against postmasters; the granting of leaves of absence to postmasters; the regulation of hours of business at fourth-class post offices; the bonding of all employees in post offices, except rural carriers and village delivery carriers.

*Post-office Service.*—The organization of post offices, salaries of postmasters, the appointment and salaries of assistant postmasters, supervisory officers, clerks, and city letter carriers; authorization of new or changes in existing service on pneumatic-tube routes and Government-owned automobile routes; establishment of mail messenger and regulation screen or other wagon service; the performance of service by contractors on such routes and complaints concerning the same; Government-owned automobile service; the establishment, maintenance, and extension of city delivery and collection service, and all matters concerning special delivery service; the regulation of hours of business at and certain miscellaneous correspondence relating to presidential post offices; allowances for rent, light, fuel, clerk hire, labor incident to cleaning post offices, telephone rental, water rental, laundering, towel service, and miscellaneous service items. (Allowances for articles of every description to be purchased chargeable to the appropriation for "Miscellaneous items, first and second class post offices," are made by the Fourth Assistant Postmaster General, division of equipment and supplies.)

*Dead letters.*—The treatment of all unmailable and undelivered mail matter which is sent to it for disposition; the enforcement of the prompt sending of such matter according to regulations; the duty of noting and correcting errors of postmasters connected with the delivery or withholding of mail matter, and the investigation, by correspondence, of complaints made with reference thereto; the verification and allowance of claims for credit by postmasters for postage-due stamps affixed to undelivered matter; the examination and forwarding or return of all letters which have failed of delivery; the inspection and return to the country of origin of undelivered foreign matter; recording and restoration to owners of letters and parcels which contain valuable inclosures; care and disposition of all money, negotiable paper, and other valuable articles found in undelivered matter, and correspondence, both foreign and domestic, relating to these subjects.

*Annual and other periodical publications.*—Annual Report of the First Assistant Postmaster General—a brief review of the work of the bureau, including the appointment of postmasters, post-office clerks, and city letter carriers, the administration of the Post-office Service, including city delivery and special delivery service, and the administration of the Division of Dead Letters. This report is now included in the Annual Report of the Postmaster General.

Applications for copies of the above-mentioned report may be addressed to Chief Clerk, First Assistant Postmaster General, Post Office Department, Washington, D. C.

## OFFICE OF THE SECOND ASSISTANT POSTMASTER GENERAL.

*Principal administrative officials.*—Second Assistant Postmaster General; Chief Clerk; Superintendents of Divisions: Railway Mail Service, Foreign Mails, Railway Adjustments.

*General information and duties.*—The Second Assistant Postmaster General has charge of the steamboat, star route in Alaska, and aeroplane services, and the following divisions, to which are assigned the duties specified:

*Railway adjustments.*—Has charge of the preparation of cases authorizing the transportation of mails by railroads and electric and cable car lines; the establishment of railway postal-car service and changes in existing service; prepares orders and instructions for the weighing of the mails on railroads; receives and tabulates the returns and computes basis of pay therefrom; prepares cases for adjustment of allowances to railroads for carrying the mails, and for postal cars; authorizes expenditures and credits for the weighing of the mails, and transportation by freight or express of postal cards, stamped envelopes, periodical mail matter, and mail equipment; examines reports as to the performance of mail service by railroad companies; prepares orders for deductions for nonperformance of service and for imposition of fines for delinquencies; prepares statements of amounts found upon administrative examination to be due the companies for transportation of the mails and for railway post-office car service, and forwards such statements to the Auditor for the Post Office Department for audit and certification for payment; and prepares all correspondence relative to these matters.

*Foreign mails.*—Is charged with the duty of arranging all details connected with the transportation of foreign mails; the preparation of postal conventions (except those relative to the money-order system) and the regulations for their execution, as well as the consideration of the questions arising under them, and with the preparation of all correspondence relative thereto. Has supervision of the ocean mail service, including the adjustment of accounts with steamship companies for the transportation of mails to foreign countries; prepares orders for the transfer and supervision through the United States postal agent in France of all postal employees in the Army field post offices abroad; and has charge of the distribution and dispatch of mails in the United States and Europe for the American expeditionary forces.

*Railway Mail Service.*—Is charged with the supervision of the Railway Mail Service and railway postal clerks; prepares cases for the appointment, removal, promotion, and reduction of said clerks; conducts correspondence and issues orders relative to the moving of the mails on railroad trains; has charge of the dispatch and distribution of mail matter in railway postal cars and post offices; conducts the weighing of mails; and attends to all correspondence relative to these matters.

*General publications.*—(a) Schedule of Steamers Appointed to Convey the United States Mails to Foreign Countries. Issued monthly; contains list of steamers scheduled as above, with mails assigned to each steamer. Furnished free to postal and other Government officials. Sold to others. (Discontinued.)

(b) Daily Bulletin of Orders Affecting the Postal Service. Issued daily, except Sundays and holidays; contains brief of orders relating to establishment, change of names, change of sites, and discontinuance of post offices; the establishment and changes of railroad, steamboat, and rural routes; names of postmasters commissioned, and miscellaneous orders relating to the Postal Service. Intended for information of postal employees, but mailed free also to a limited list of other persons especially interested.

*Annual and other periodical publications.*—Annual Report of the Second Assistant Postmaster General. A brief review of the work of the bureau, relating to the transportation of mails—the Railway Mail Service, steamboat, mail messenger services, foreign mails, adjustments of railway-mail pay, etc. This report is now included in the Annual Report of the Postmaster General.

*Correspondence.*—Requests for the Daily Bulletin of Orders Affecting the Postal Service should be addressed to the Superintendent, Railway Mail Service, Office of Second Assistant Postmaster General, Washington, D. C.

Requests for the Annual Report should be addressed to Chief Clerk, Post Office Department, Washington, D. C.



## OFFICE OF THE THIRD ASSISTANT POSTMASTER GENERAL.

*Principal administrative officials.*—Third Assistant Postmaster General; Chief Clerk; Superintendents of Divisions; Finance, Stamps, Money Orders, Registered Mails, Classification, Postal Savings Divisions—Director, Assistant Director.

*General information and duties.*—The Third Assistant Postmaster General has charge of the following divisions, to which are assigned the duties specified:

*Finance.*—The financial operations, including the collection and deposit of postal revenues; the distribution of postal funds among the several depositaries so as to equalize, as far as possible, receipts and expenditures in the same section; the payment by warrant of all accounts settled by the auditor; the receipt and disposition of all moneys coming directly to the department; and the keeping of books of account showing the fiscal operations of the postal and money-order services and the regulation of box rents and key deposits.

*Stamps.*—The supervision of the manufacture and issuance to postmasters of postage stamps, stamp books, stamped envelopes, newspaper wrappers, postal cards, and postal savings stamps and cards by the various contractors; and the keeping of the accounts and records of these transactions; the receipt and disposition of damaged and unsalable stamped paper returned by postmasters for redemption and credit; the issuance to postmasters for sale to the public of United States war savings certificate stamps, United States thrift stamps, and United States internal-revenue stamps, and the keeping of accounts in connection therewith.

*Money orders.*—The supervision and management of the money-order service, both domestic and international; the preparation of conventions for the exchange of money orders with foreign countries.

*Registered mails.*—The supervision and management of the registry, insurance, and collect-on-delivery services; the establishment and control of all registry dispatches and exchanges; the instruction of postmasters and the furnishing of information in relation to these matters; and the consideration of all claims for indemnity for injured or lost or registered, insured, and C. O. D. mail.

*Classification.*—The general control of all business relating to the classification of domestic mail matter and the rates of postage thereon, including the determination of the admissibility of publications to the second class of mail matter, their right to continue in that class, and the instruction of postmasters relative thereto; also the use of penalty envelopes, the franking privilege, and the limit of weight and size of mail matter.

*Postal savings.*—The conduct and management of the administrative office of the postal savings system at Washington; the selection and designation of post offices as postal savings depository offices and the supervision of the business transacted at such offices; the management and investment of postal savings funds as the agent of the board of trustees; and the administrative examination of accounts of postmasters and other fiscal agents of the system.

*Annual and other periodical publications.*—Annual Report of the Third Assistant Postmaster General. A brief review of the work of the bureau, including the finances of the department, the workings of the divisions of classification, stamps, also the postal-savings, money-order, and registry systems. This report is now included in the Report of the Postmaster General.

*Correspondence.*—Applications for copies of the Annual Report of the Third Assistant Postmaster General may be addressed to Chief Clerk, Post Office Department, Washington, D. C.

Requests for post route or rural delivery county maps should be addressed to the Third Assistant Postmaster General, Division of Finance, Washington, D. C.

## OFFICE OF THE FOURTH ASSISTANT POSTMASTER GENERAL.

*Principal administrative officials.*—Fourth Assistant Postmaster General; Chief Clerk; Superintendents of Divisions: Rural Mails, Equipment and Supplies.

*General information and duties.*—The Fourth Assistant Postmaster General has charge of the following divisions, to which are assigned the duties specified:

*Rural mails.*—In this division all petitions for the establishment and extension of rural delivery service are received and examined, and, if accepted, are

pared for investigation. Through it all orders pertaining to the extension or change of existing service or establishment of new service are issued; also all orders pertaining to the appointment and discipline of rural letter carriers and all other correspondence incident to these matters, including requirements with reference to rural mail boxes. This division also prepares all advertisements inviting proposals for star-route service (except in the Territory of Alaska), receives proposals, prepares awards for execution of all contracts, and prepares all orders for establishment of or change in star routes.

*Equipment and supplies.*—Is charged with the preparation of specifications for equipment and supplies for the Postal Service, and the duty of determining the needs of the service as to style and character thereof; the preparation of purchase requisitions therefor on the purchasing agent; the custody, transportation, and distribution of equipment and supplies, and the conduct of correspondence relative thereto; the keeping of a record of expenditures as charged to the respective appropriations; the preparation and revision of post-route maps and the supervision of their printing, issue, and distribution; the preparation of specifications for their manufacture, and the general care of stores and property in the department and in the possession of contractors; the making of rural-delivery maps, and the distribution of parcel-post maps, zone keys and guides; the designing or adoption of such new equipment and supplies as may be deemed necessary, and the performance or direction of experimental and research work in connection therewith, as well as the examination and test of the mechanical features of devices; the supervision and operation of the equipment shops, and the keeping of records showing the cost of equipment and its operation and repair.

*General publications.*—Postal Laws and Regulations Applicable to the Rural Mail Service. An abstract of the Postal Laws and Regulations applying particularly to the conduct of the rural mail service.

*Method of distribution of general publications.*—The preceding pamphlet is designed primarily for the information and guidance of rural carriers and postmasters, to whom it is supplied. Sold to those outside the postal service.

*Annual and other periodical publications.*—Annual Report of the Fourth Assistant Postmaster General. A brief review of the work of the bureau for the year, relating to the rural delivery service and the supplies for the postal service. This report is now included in the Report of the Postmaster General.

*Maps.*—Post Route Maps are published semiannually, January and July 1, each year. They show by States all post offices, counties, lakes, rivers, streams, steam and electric roads that carry mail, star routes, and rural delivery routes that supply post offices. Sold. Price list furnished free on request.

*Rural delivery county maps.*—These maps have been made for counties that have complete rural service; are on a scale of about 1 mile to the inch; show roads, post offices, villages, streams, schoolhouses, churches, and railroads that carry mail. Sold at 20 cents each. List of completed maps may be obtained upon request.

*Correspondence.*—Requests for copies of the Postal Laws and Regulations applicable to the rural mail service, from persons not connected with the postal service, should be addressed to the Superintendent of Public Documents, Government Printing Office, Washington, D. C. Requests for maps should be addressed to the Third Assistant Postmaster General, Division of Finance, Washington, D. C.

## PART VI.—DEPARTMENT OF THE NAVY.

(For location of department and bureaus, see page 189.)

*Principal administrative officials.*—Secretary of the Navy; Assistant Secretary; Aid to the Secretary of the Navy; Chief Clerk; Disbursing Clerk; Superintendent Office of Naval Records and Library; Correspondence, Mails, and Files; Appointment Clerk; Special Duty, Secretary's Office; Naval Consulting Board.

*General information and duties.*—The Secretary of the Navy performs such duties as the President of the United States, who is Commander in Chief, may assign him and has the general superintendence of construction, manning, armament, equipment, and employment of vessels of war.

The Assistant Secretary of the Navy performs such duties in the Navy Department as may be prescribed by the Secretary of the Navy or required by law.

The Chief Clerk has general charge of the records and correspondence of the Secretary's office and performs such other duties as may be assigned to him by the Secretary of the Navy.

*General publications.*—(a) American Samoa. A pamphlet containing general information on American Samoa, viz, its geography, history, laws, government, agriculture, industries, and the characteristics and customs of its people. Distributed free upon request.

(b) The Island of Guam. A pamphlet published about February 1, 1917, containing general information on Guam similar in extent and presentation to that embraced in the pamphlet American Samoa. Distributed free upon request.

*Annual and other periodical publications.*—(a) Annual Report of the Secretary of the Navy. A pamphlet containing a general résumé of existing conditions in the Naval Establishment, a record of operation and progress during the fiscal year for which issued, and a general consideration of problems which will demand solution in the future. Distributed free upon request.

(b) Annual Reports of the Navy Department. A publication in which are brought together in one volume the Annual Report of the Secretary of the Navy and the annual reports of the several bureaus and offices of the Navy Department. Distributed free upon request.

*Correspondence.*—Requests for publications should be addressed to the Secretary of the Navy, Washington, D. C.

### OFFICE OF NAVAL RECORDS AND LIBRARY.

*General publications.*—Only publication now being issued by this office is the Official Records of the Union and Confederate Navies in the War of the Rebellion. Twenty-six volumes have been distributed; the twenty-seventh is in the hands of the Public Printer. It is expected that two or three more will follow.

*Method of distribution of general publications.*—The Official Records of the Union and Confederate Navies in the War of the Rebellion are distributed free under authority of Members of the Fifty-third and Fifty-fourth Congresses, each Senator having designated 24 and each Representative 19 addresses to which sets are being sent as volumes are published. The assignment of sets has been practically completed. A circular is issued furnishing data concerning topics covered by these records, the plan of publication and distribution, and acts of Congress governing their issue. Address Superintendent of Naval Records and Library, Navy Department, Washington, D. C.

### NAVAL CONSULTING BOARD OF THE UNITED STATES.

*Principal administrative officials.*—President, Chairman, Vice Chairman, and Secretary.

The above officers, with 20 additional members, form the board. There are 21 standing committees of the board.

*General information and duties.*—The board was appointed by the Secretary of the Navy to assist in the solution of technical problems connected with the Navy. It maintains an office in New York for meetings and consultation.

*Publications.*—Publications are issued from time to time as needed.

Address of the board is 13 Park Row, New York City, N. Y.

## OFFICE OF NAVAL OPERATIONS.

*Principal administrative officials.*—Chief of Naval Operations, Assistant for Operations, Assistant for Material, Chief Clerk.

*General information and duties.*—During the temporary absence of the Secretary and the Assistant Secretary of the Navy the Chief of Naval Operations is next in succession to act as Secretary of the Navy. (Act Mar. 3, 1915.) The Chief of Naval Operations, while so serving as such Chief of Naval Operations, shall have the rank and title of admiral, to take rank next after the Admiral of the Navy. (Act Aug. 29, 1916.)

The Chief of Naval Operations, under the direction of the Secretary of the Navy, is charged with the operations of the fleet and with the preparation and readiness of plans for its use in war. (Act Mar. 3, 1915.) This includes the direction of the Naval War College, the Office of Naval Intelligence, the Office of Gunnery Exercises and Engineering Performances, the Office of Naval Communications, the operations of Aviation Service and all Naval Districts, Aeronautic Service, of Mines and Mining, of the Naval Defense Districts, Naval Militia, and of the Coast Guard when operating with the Navy; the direction of all strategic and tactical matters, organization, maneuvers, target practice, drills and exercises, and of the training of the fleet for war; and the preparation, revision, and enforcement of all tactics, and drill books, signal codes, and cipher codes.

The Chief of Naval Operations is charged with the preparation, revision, and record of Regulations for the Government of the Navy, Naval Instructions, and General Orders. He advises the Secretary concerning the movements and operations of vessels of the Navy and prepares all orders issued by the Secretary in regard thereto, and keeps the records of service of all fleets, squadrons, and ships. He advises the Secretary in regard to the military features of all new ships and as to any proposed extensive alterations of a ship which will affect her military value, and all features which affect the military value of dry docks, including their location; also as to matters pertaining to fuel reservations and depots, the location of radio stations, reserves of ordnance and ammunition, fuel, stores, and other supplies of whatsoever nature, with a view to meeting effectively the demands of the fleet.

In preparing and maintaining in readiness plans for the use of the fleet in war he freely consults with and has the advice and assistance of the various bureaus, boards, and offices of the department, including the Marine Corps headquarters, in matters coming under their cognizance. After the approval of any given war plans by the Secretary it is the duty of the Chief of Naval Operations to assign to the bureaus, boards, and offices such parts thereof as may be needed for the intelligent carrying out of their respective duties in regard to such plans.

The Chief of Naval Operations is charged with matters pertaining to the operation of aircraft and aircraft stations. He has supervision of the training of officers and men in the Aeronautic Service.

The Chief of Naval Operations from time to time witnesses the operations of the fleet as an observer.

He has two principal senior assistants, officers not below the grade of captain, one as assistant for operations and the other as assistant for matériel.

He is ex officio a member of the General Board.

### COMMUNICATION OFFICE.

The Naval Communication Service is established under the Chief of Naval Operations and embraces the Office of Naval Communications. The Director of Naval Communication is responsible for the efficient handling of all radio, telegraph, telephone, cable, and signal work, including submarine signaling, etc., used in connection with naval communications; has charge of cable and radio censorship. He is responsible for the preparation of calls, signal books, and ciphers. Under his administration of the foregoing means of communication, he has general charge of their operation, personnel, organization, etc.

The Communication Office, in the Navy Department Building, handles all dispatch work for the Navy Department and a communication officer is on watch in the communication office at all times day and night.

## OFFICE OF NAVAL INTELLIGENCE.

*Principal administrative officials.*—Director of Office of Naval Intelligence, Assistant Director.

The Office of Naval Intelligence is charged with the collection, classification, and dissemination of such technical information at home and abroad as will be useful to the Chief of Naval Operations and to the various bureaus of the Navy Department in the formulation of plans for war and in the development of personnel and matériel.

## OFFICE OF GUNNERY EXERCISES AND ENGINEERING PERFORMANCES.

*Principal administrative officials.*—Director, Office of Gunnery Exercises and Engineering Performances.

The Office of the Director of Gunnery Exercises and Engineering Performances was created for the purpose of assisting the Chief of Naval Operations in the matter of gunnery exercises, drills, and exercises, and in the training of the fleet for war.

In assisting the Chief of Naval Operations to perform his duties, the Director of Gunnery Exercises and Engineering Performances is, under the direction of the Chief of Naval Operations, charged with (a) the preparation of the orders for gunnery exercises and engineering performances; (b) the collection and publication to the service of all results of gunnery exercises and engineering of vessels of the fleet; (c) the examination of reports of battle efficiency inspections; (d) the preparation and revision of all drill books and gunnery instructions.

He brings to the attention of the Chief of Naval Operations all deficiencies of material or personnel that come to his notice affecting the efficiency and readiness of vessels of the fleet for war. He keeps the Chief of Naval Operations informed of the proficiency and progress of the fleet in training for war as shown by reports of gunnery exercises, engineering performances and reports of battle efficiency inspections. He performs such other duties as the Chief of Naval Operations may direct.

## NAVAL COMMUNICATION SERVICE.

*Principal administrative official.*—Director of Naval Communication Service.

The Office of Director of Naval Communications is established under the Chief of Naval Operations. The Director of Naval Communications is charged with matters pertaining to the operation of naval radio stations ashore, and in addition is charged with the duties in connection with and is responsible for the efficient handling of all telegraph, telephone, and cable, and generally all dispatch work between the Navy Department and the fleet and throughout the naval service outside the fleet. In his administration of the foregoing he has general charge of the operation, organization, and administration of the Communication Service. He cooperates with officials designated by the Secretary of Commerce in reference to the proposed location of commercial radio stations, the licensing of operators, the control of the operation of commercial radio stations under the law, and the assignment of wave lengths for use by commercial stations which will comply with the law and prevent interference with the radio work of the Naval Communication Service.

*General publications.*—(a) Commercial Traffic Regulations; (b) Small Arms Firing Regulations, 1917; and (c) Annual Report of Small Arms Practices.

*Methods of distribution of general publications.*—(a) Can be obtained from the Government Printing Office for 25 cents per copy; (b and c) discontinued to persons outside service.

*Annual and other periodical publications.*—This office does not publish any annual or periodical publications. It maintains no list of publications available for distribution to the public.

*Correspondence.*—Address the Chief of Naval Regulations, Navy Department, Washington, D. C.

## BUREAU OF NAVIGATION.

*Principal administrative officials.*—Chief, Assistant to Bureau, Chief Clerk, Clerk to the Naval Academy.

*General information and duties.*—The duties of the Bureau of Navigation comprise (1) the issue, record, and enforcement of the orders of the Secretary to the individual officers of the Navy; the training and education of line officers and of enlisted men (except of the Hospital Corps) at schools and stations and in vessels maintained for that purpose; the upkeep and operation of the Naval Academy, of technical schools for line officers, of the apprentice-seaman establishments, of schools for the technical education of enlisted men, and of the naval home at Philadelphia, Pa.; the upkeep and the payment of the operating expenses of the Naval War College; the enlistment, assignment to duty, and discharge of all enlisted persons.

(2) It has under its direction all rendezvous and receiving ships, and provides transportation for all enlisted persons under its cognizance.

(3) It establishes the complements of all ships in commission.

(4) It keeps the records of service of all officers and men, and prepares an annual Navy Register for publication, embodying therein data as to fleets, squadrons, and ships, which shall be furnished by the Chief of Naval Operations. To the end that it may be able to carry out the provisions of this paragraph, all communications to or from ships in commission relating to the personnel of such ships are forwarded through this bureau, whatever their origin.

(5) It is charged with all matters pertaining to applications for appointments and commissions in the Navy, and with the preparation of such appointments and commissions for signature.

(6) It is charged with the preparation, revision, and enforcement of all regulations governing uniform, and with the distribution of all orders and regulations of a general or circular character.

(7) Questions of naval discipline, rewards, and punishments are submitted by this bureau for the action of the Secretary of the Navy. The records of all general courts-martial and courts of inquiry involving the personnel of the Navy before final action are referred to this bureau for comment as to disciplinary features.

(8) It receives and brings to the attention of the Secretary of the Navy all applications from officers for duty or leave.

(9) It receives all reports of services performed by individual officers or men.

(10) It is charged with the enforcement of regulations and instructions regarding naval ceremonies and naval etiquette.

(11) It shall be charged with the upkeep and operation of the Hydrographic Office, the Naval Observatory, Nautical Almanac, and compass offices. It shall also have charge of all ocean and lake surveys, and ships' and crews' libraries; it shall defray the expenses of pilotage of all ships in commission.

(12) It shall be charged with the formation of the Naval Reserve and with all matters relating thereto, and shall have supervision of the Naval Militia.

*Publications.*—(a) Navy Register (List of Officers and Vessels of Navy). Annual. Can be obtained from Superintendent of Documents, 30 cents.

(b) Monthly List and Directory of Navy and Marine Corps (Addresses of Officers and of Vessels of Navy). Monthly. Can be obtained from Superintendent of Documents, 10 cents per copy; \$1 per year. (Discontinued.)

(c) Annual Report of Chief of Bureau. Can be obtained from Chief of Bureau of Navigation. Free.

(d) Annual Report of Movements of the Vessels of Navy. Can be obtained from the Chief of Bureau of Navigation. Free. (Discontinued.)

(e) Uniform Regulations U. S. Navy. Can be obtained from the Superintendent of Documents; 50 cents.

(f) Naval Regulations and Naval Instructions, 1913. Can be obtained from the Superintendent of Documents. Price, \$1.

(g) Enlistment Circulars. Can be obtained from the Chief of Bureau of Navigation or any Navy recruiting station. Free.

## HYDROGRAPHIC OFFICE.

*Principal administrative officials.*—Hydrographer, three Assistants, Hydrographic Engineer, Chief Clerk.

*General information and duties.*—The Hydrographic Office is charged with marine surveys in foreign waters and with the collection and dissemination of

hydrographic and navigational data; the preparation and printing of maps and charts relating to and required in navigation; the preparation of navigators' sailing directions for pilots, and manuals of instruction for the use of all vessels of the United States and for the benefit and use of navigators generally; the furnishing of the foregoing to the Navy and other public services; and their sale to the mercantile marine and the public at the cost of printing and paper.

*General publications.*—Nautical books, which fall into two groups: (a) Pilots or sailing directions of foreign waters, which describe the harbors, channels, coasts, islands; regulations governing anchorage, dues, quarantine, etc.; facilities for unloading, loading, docking, repairs, water, food, and supplies; communications by rail, wire, radio, steamer; and such miscellaneous information as can not be given on the charts or which amplifies them.

(b) Books devoted to the mathematics of navigation and its methods and instruments; besides the International Code of Signals, lists of foreign lights, and a general catalogue of charts and nautical books published by the office.

*Method of distribution of general publications.*—Sold at cost of printing and paper to the merchant marine and the public; issued free to the Navy and other Federal services.

*Annual and other periodical publications.*—(a) Annual Report of the Hydrographer. Limited free distribution.

(b) Notice to Mariners. Octavo pamphlet, weekly, free. Gives changes in aids to navigation (lights, buoyage, harbor constructions), dangers to navigation (rocks, shoals, banks, bars), important new soundings, and, in general, all such facts as affect mariners' charts, manuals, and pilots or sailing directions. Relates to all waters traversed by seagoing ships and the Great Lakes.

(c) Hydrographic Bulletin. A broadsheet of varying size, weekly, free. Gives detailed facts regarding ice, wrecks, and derelicts; also items on port facilities, use of oil to calm the sea, and miscellany of use and interest to mariners. Relates to all waters traversed by seagoing ships and the Great Lakes.

(d) Pilot Charts. Issued monthly for the North Atlantic, North Pacific, and Indian Oceans, and the Central American waters; quarterly for the South Atlantic and South Pacific Oceans. They treat the following subjects, doing so graphically as far as practicable: Average conditions of the winds and weather; tracks of storms; percentage of gales and fog in different areas; average pressure and temperature of the air; magnetic variation; steamship and sailing routes; prevailing ocean currents; storm signals; radio stations; icebergs and other floating dangers to navigation; timely articles on various subjects of interest to navigators.

(e) Reprints of Hydrographic Information. Octavo pamphlets designed to keep in handy form articles and information scattered through the Pilot Charts and Bulletins; free; published at irregular intervals. The following titles have appeared to date: No. 1, Port Facilities; No. 2, North Atlantic Ice Movements; No. 3, Use of Oil to Calm the Sea; No. 4, Port Facilities No. 2; No. 5, Submarine Sound Signals (stock exhausted); No. 6, Compass Work on the Great Lakes; No. 7, Port Facilities No. 3; No. 8, Questions and Answers; No. 9, The Origin and Mission of the Hydrographic Office; No. 10, The Use and Interpretation of Charts and Sailing Directions; No. 11, Production of Navigational Charts; No. 12, Great Lakes Port Facilities; No. 13, Cyclonic Storms; No. 14, Questions and Answers No. 2; No. 15, Port Facilities No. 4 (North Atlantic Ocean); No. 16, Port Facilities No. 5 (North Pacific Ocean); No. 17, Port Facilities No. 6 (Indian Ocean); No. 18, Port Facilities No. 7 (South Pacific Ocean); No. 19, Port Facilities No. 8 (South Atlantic Ocean); No. 20, Port Facilities No. 9 (North Atlantic Ocean); No. 21, Questions and Answers No. 3; No. 22, Port Facilities No. 10 (North and South Atlantic Oceans); No. 23, Port Facilities No. 11 (Pacific and Indian Oceans); No. 24, North Atlantic Ice Patrols; No. 25, Questions and Answers No. 4.

*List of publications.*—Circular of Information No. 3 gives complete list of the books and selected list of popular charts; how to remit to office; list of sale agents; distribution free. The General Catalogue of Charts is distributed free; index charts show location of navigators' charts (one a world index and 25 regional indexes), free.

*Mailing lists.*—None but exchanges (in return for publications or marine data).

*Maps.*—Navigators' charts which show coast lines, depth of water, islands, channels, lighthouses, buoys, dangerous rocks, shoals, reefs, bars, harbors,

anchorages, radio stations, signal stations, and landmarks or prominent objects ashore; also courses for entering and leaving port, routes, distances, tidal information, currents, variation of the compass, and location of submarine telegraphic cables; besides these, a series of gnomonic or great-circle sailing charts (one for each ocean), a track and distance chart of the world; a cable, telegraph, and radio chart of the world; and two charts of the principal stars and constellations in the northern and southern heavens. In all 2,560 charts, most of them relating to foreign coast and the high seas.

*Correspondence.*—Address Hydrographic Office; make remittance to same, employing post-office money order.

## NAVAL OBSERVATORY.

*Principal administrative officials.*—Superintendent of the Naval Observatory; Assistant to the Superintendent, Head of Department of Compasses, Chronometers, and other Nautical and Surveying Instruments, and the Time Service; Inspection Officer; Supply Officer; Director of the Department of the Nautical Almanac; Astronomer in Charge of Astronomical Observations; Librarian; Chief Clerk.

*General information and duties.*—The Naval Observatory, at Washington, D. C., and the Naval Chronometer Time Station, at the Navy Yard, Mare Island, Cal., furnish the country standard time each day both by telegraph and radio, and the adjacent oceans by radio, the former supplying that part of the country east of the Rocky Mountains and the latter that part west. The Naval Observatory supervises the outfits of instruments for the naval service and keeps up continuous fundamental observations of the heavenly bodies for the use of the Nautical Almanac Office, which prepares the American Ephemeris and Nautical Almanac and the Nautical Almanac each year for the use of navigators, surveyors, and others requiring the positions and movements of the heavenly bodies.

*General publications.*—Publications have been issued by the Naval Observatory, since its organization in 1842, on the following topics: Arctic expedition; Astronomical expedition to the Southern Hemisphere; Astronomical observations from 1845; Astrophotographic Congress; Barometer at sea; Catalogs of the stars; Chronometers; Comets; Current charts; Cyclone in the West Indies; Dead Sea expedition; Double stars; Earth and its motions; Eclipse of the sun; Equatorial observations; Eunomia tables; Fixed stars; Jupiter and Saturn; Latitude and longitude; Log for navigators (Abstract); Magnetic observations; Mathematical tables; Logarithms, refraction, zenith distance; Mercury (and transit); Meteorological observations; Moon and its motions; Neptunian system; Observatory (history and specifications); Orbits of stars and planets; Orion and its nebula; Pilot charts, 1845-1885; Planets; Polar expedition of the *Polaris*; Rain and storm charts; Refraction tables; Regulations for employees; Sailing directions; Satellites of planets; Saturn and its ring; Solar eclipse; Solar parallax; Solar spots; Specifications (observatory buildings); Star catalogs; Storm and rain charts; Stellar parallax; Sun and distance to it; Tables for calculations; Time; Trade winds; Transit circle observations; Transit of Venus; Uranian system; Washington observations, from 1845; Watches (instructions for care); Whale chart; Wind and current chart; Zenith distance tables; Zones of stars.

*Method of distribution of general publications.*—Only a limited number of copies of the above publications are printed. Most of them are distributed to a regular list of scientific exchanges and the remaining copies are kept for free distribution to those who can make especial use of them. The Superintendent of Documents, Government Printing Office, has many of these publications for sale and will forward a price list on application.

*Annual and other periodical publications.*—(a) Annual Report of the Superintendent of the Naval Observatory is sent free as long as copies are available.

(b) American Ephemeris and Nautical Almanac, 1855-1919. This is usually issued three years in advance, and is for the use of astronomers, engineers, and navigators. It is divided into three parts: (1) Ephemeris for the meridian of Greenwich; (2) Ephemeris for the meridian of Washington; (3) Phenomena. This book contains all of the material that is in the Nautical Almanac, and much additional data. No copies are available for free distribution to the public, but are sold by the Superintendent of Documents at \$1 per copy.

(c) American Nautical Almanac, 1855-1919. This is usually issued three years in advance and is intended primarily for the use of navigators. It



contains an astronomical ephemeris for the meridian of Greenwich with tables and directions for use. No copies are available for free distribution to the public, but they can be obtained from the Superintendent of Documents at 15 to 30 cents per copy.

(d) The following serials have been discontinued: Atlantic Coasters' Nautical Almanac for 1884-1892 (9 pamphlets); Pacific Coaster's Nautical Almanac, 1885-1906 (12 pamphlets); List of Stars for Navigators for 1908 and 1909 (2 pamphlets); Stars for Navigators and Polaris Tables for 1910 (1 pamphlet); Star List of the American Ephemeris for 1909-1911 (3 pamphlets).

(e) The topics included in Astronomical Papers and other serials issued at irregular intervals are given under *General publications*. Nine volumes of Astronomical Papers have been issued from 1882-1917.

*List of publications.*—A list of publications issued between 1845 and 1908 is available for free distribution. A price list of publications on astronomy is also available for distribution by Superintendent of Documents, Government Printing Office, Washington, D. C.

*Indexes to publications.*—The only index issued, now out of print, is: A Subject Index, 1845-1875, consisting of 74 pages, and printed by the Government Printing Office in 1879.

*Maps.*—No separate maps have been published since the Naval Observatory was separated from the Hydrographic Office.

*Correspondence.*—All correspondence should be addressed to Superintendent, United States Naval Observatory, Washington, D. C.

## DIVISION OF NAVAL MILITIA AFFAIRS.

*Principal administrative officials.*—Chief of Division of Naval Militia Affairs.

*General information and duties.*—The Division of Naval Militia Affairs is charged with the transaction of business pertaining to the Naval Militia of the several States of the Union having such organizations, including the District of Columbia, its jurisdiction embracing all administrative duties involving the armament, equipment, discipline, training, education, and organization of the Naval Militia; the relations of the Naval Militia to the Regular Navy in time of peace; the conduct of cruises of instruction of the Naval Militia on vessels loaned to the States and on vessels of the Regular Navy, and the conduct of armory and other instruction; and all other matters pertaining to the Naval Militia not herein generically enumerated which do not under existing laws, regulations, orders, and practice, come within the jurisdiction of any division or bureau of the Navy Department. It is the office of record for all matters pertaining to the Naval Militia when not in the service of the United States.

*Annual and other periodical publications.*—(a) Annual Report of the Division of Naval Militia Affairs, Annual Report of Cruises, Naval Militia Register, Laws Relating to Naval Militia and National Naval Volunteers.

*Textbooks and reports.*—The following are issued, usually one copy to each officer, and several copies to each division:

General: Naval Regulations and Instructions; General Orders, Navy Department; Uniform Regulations, United States Navy; Uniform Regulations, United States Marine Corps; Articles for the Government of the United States Navy; The Bluejackets' Manual, United States Navy; The Deck and Boat Book, United States Navy; Landing Force and Small Arms, Instructions; The Recruit's Handy Book, United States Navy; Ship and Gun Drills, United States Navy; Naval Artificers' Handbook (Pate); Tactical Signal Book of the Naval Militia (Confidential); International Code of Signals, Hydrographic Office; The Navy Signal System.

Navigation: American Practical Navigator (Bowditch); Navigation and Compass Deviation (Muir); A Practical Manual of the Compass (Laning); Azimuths of the Sun; Star Identification Tables; The American Nautical Almanac; Line of Position Tables.

Aeronautics: Mechanics of the Aeroplane (Duchene); Military Aeroplanes (Loening); Some practical experiences (Hamel and Turner).

Miscellaneous: Signal System Based on Dot and Dash Code; War Games and War Problems (Naval War College); Fleet Regulations, United States Atlantic Fleet; United States Atlantic Fleet, Athletic Rules; Ships Data, United States Naval Vessels; General Instructions for Painting and Cementing Vessels of the United States Navy; Directions for the use of Compensating Binnacles; Index to Ordnance Pamphlets; Bureau of Ordnance Pamphlets, Nos. 1-650;

Rules to Prevent Collisions of Vessels at Sea (Department of Commerce); United States Light List (Department of Commerce); United States Buoy List (Department of Commerce); Tide Tables (Department of Commerce); List of Merchant Vessels of the United States (Department of Commerce).

*Correspondence.*—The Annual Reports may be obtained by addressing a request to the Chief of the Division of Naval Militia Affairs, Navy Department, Washington, D. C. The textbooks listed above are only available for the Navy Department, and are not for general distribution.

## BUREAU OF YARDS AND DOCKS.

*Principal administrative officials.*—Chief, Assistant, and Chief Clerk.

*General information and duties.*—The duties of the Bureau of Yards and Docks comprise all that relates to the design and construction of public works, such as dry docks, marine railways, building ways, harbor works, quay walls, piers, wharves, slips, dredging, landings, floating and stationary cranes, power plants, coaling plants; heating, lighting, telephone, water, sewer, and railroad systems; roads, walks, and grounds; bridges, radio towers, and all buildings, for whatever purpose needed, under the Navy and Marine Corps. It provides for the general maintenance of the same except at the naval proving ground, the naval torpedo station, the naval training stations, the Naval Academy, the naval magazines, naval hospitals, and marine posts. It designs and makes the estimates for the public works after consulting as to their operating features with the bureau or office for whose use they are primarily intended. It has charge of all means of transportation, such as derricks, shears, locomotives, locomotive cranes, cars, motor trucks, and all vehicles, horses, teams, subsistence, and necessary operators and teamsters in the navy yards. It provides the furniture for all buildings except at the naval magazines, hospitals, the Naval Academy, and marine posts. It provides clerks for the office of the commandant, captain of the yard, and public works officer. In general, the work of the bureau is carried out by commissioned officers of the Corps of Civil Engineers, United States Navy, whose major duties comprise the construction and maintenance of the public works of the Navy.

*General publications.*—Bulletin, Public Works of the Navy. Issued quarterly, January 1, April 1, July 1, and October 1. Information published in the bulletins is classed under three heads: Administrative, professional, and engineering notes.

Under the head "administrative" are published, from time to time, explanations of the manner in which the bureau desires its work carried on, information relating to new contracts, reports of progress of work, and work completed; reports and analyses of expenditures and matters relating directly to the administrative policy of the bureau.

Under the head "professional" is published matter of professional interest to officers of the Corps of Civil Engineers, United States Navy, including proposed new methods of design, special cases of successful construction along new lines, and cases which may have proved unsuccessful; results of tests upon various manufactured articles which may be offered for use in public works; cost data on the various works constructed under the cognizance of the bureau. Articles descriptive of engineering projects of major importance are prepared by members of the corps and appear under this heading.

Under the head "engineering notes" is printed such information as bibliographies, abstracts of published articles, etc., which it is considered will be of value as reference. Brief articles descriptive of engineering projects of somewhat minor importance are also published under this heading.

*Method of distribution of general publications.*—Bulletins, Public Works of the Navy, are not for public distribution. However, it has been the custom to forward copies to parties on request. The supply of each issue is limited to 500 copies.

*Annual and other periodical publications.*—(a) Public Works Data Book, issued June —, 1916; loose leaf; new leaves are issued as revisions occur. (b) Annual Report.

*Maps.*—Maps of all navy yards and naval stations are published annually. They are not for sale or for distribution.

*Correspondence.*—Chief of Bureau of Yards and Docks, Washington, D. C.

## BUREAU OF ORDNANCE.

*Principal administrative officials.*—Chief, Assistant to Chief of Bureau, Chief Clerk.

*General information and duties.*—The duties of the Bureau of Ordnance comprise all that relates to the upkeep, repair, and operation of the torpedo station, naval proving ground, and magazines on shore, to the manufacture of offensive and defensive arms and apparatus (including torpedoes and armor), all ammunition and war explosives. It makes requisitions for or manufactures all machinery, apparatus, equipment, material, and supplies required by or for use with the above.

It determines the interior dimensions of revolving turrets and their requirements as regards rotation.

As the work proceeds it inspects the installation of the permanent fixtures of the armament and its accessories on board ship and the methods of stowing, handling, and transporting ammunition and torpedoes, all of which work must be performed to its satisfaction. It designs and constructs all turret ammunition hoists, determines the requirements of all ammunition hoists, and the method of construction of armories and ammunition rooms on shipboard, and in conjunction with the Bureau of Construction and Repair determines upon their location and that of all ammunition hoists outside of turrets. It installs all parts of the armament and its accessories which are not permanently attached to any portion of the structure of the hull, excepting turret guns, turret mounts, and ammunition hoists, and such other mounts as require simultaneous structural work in connection with installation or removal. It confers with the Bureau of Construction and Repair respecting the arrangements for centering the turrets and the character of the roller paths and their supports.

It has cognizance of all electrically operated ammunition hoists, rammers, and gun-elevating gear which are in turrets; of electric training and elevating gear for gun mounts not in turrets; of electrically operated air compressors for charging torpedoes; and of all range finders and battle order and range transmitters and indicators.

*Publications.*—The only publication available for distribution is the Annual Report.

*Correspondence.*—Copies sent free as long as available by addressing Chief of Bureau of Ordnance, Navy Department, Washington, D. C.

## BUREAU OF CONSTRUCTION AND REPAIR.

*Principal administrative officials.*—Chief (Chief Constructor), Assistant to the Bureau, Chief Clerk.

*General information and duties.*—The duties of the Bureau of Construction and Repair comprise the responsibility for the structural strength and stability of all ships built for the Navy; all that relates to designing, building, fitting, and repairing the hulls of ships, turrets, and electric turret-turning machinery, spars, capstans, windlasses, deck winches, boat cranes, steering gear, and hull ventilating apparatus (except portable fans); and, after consultation with the Bureau of Ordnance and according to the requirements thereof as determined by that bureau, the designing, construction, and installation of independent ammunition hoists, the same to conform to the requirements of the Bureau of Ordnance as to power, speed, and control, and the installation of the permanent fixtures of all other ammunition hoists and their appurtenances; placing and securing armor, placing and securing on board ship to the satisfaction of the Bureau of Ordnance the permanent fixtures of the armament and its accessories as manufactured and supplied by that bureau; installing the turret guns, turret mounts, and turret ammunition hoists, and such other mounts as require simultaneous structural work in connection with installation or removal.

It has charge of the docking of ships and is charged with the operating and cleaning of dry docks.

*General publications.*—The following general publications have been issued: Specifications for Riveting and Reference Data for Use Therewith. General Instructions for Painting and Cementing Vessels of the United States Navy. Instructions for Calculating and Testing Ventilation Systems. Instructions for Making Joint and Obtaining Oil-Tightness and Water-Tightness to Bulkheads, Decks, etc., for Vessels of the United States Navy. Unit Weights of Materials for Use in Connection with Ships of the United States Navy. Column

Tables (Unit Loads for Compression Members). Defining what the bureau regards as good practice.

*Method of distribution of general publications.*—Requests should be sent to the Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—Annual Report of chief of the bureau, which describes the activities of the bureau. Should be obtained from the Superintendent of Documents, Government Printing Office.

*Correspondence.*—All the publications can be obtained by addressing Superintendent of Documents, Government Printing Office, Washington, D. C. The cost of the publications is determined by the Superintendent of Documents.

## BUREAU OF STEAM ENGINEERING..

*Principal administrative officials.*—Chief (Engineer in Chief), Assistant to Bureau, Chief Clerk.

*General information and duties.*—The duties of the Bureau of Steam Engineering comprises all that relates to designing, building, fitting out, and repairing machinery used for the propulsion of naval ships; the steam pumps, steam heaters, distilling apparatus, refrigerating apparatus, all steam connections of ships, and the steam machinery necessary for actuating the apparatus by which turrets are turned.

It has cognizance of the entire system of interior communications. It is specifically charged with the design, supply, installation, maintenance, and repair of all means of interior and exterior electric signal communications (except range finders and battle-order and range transmitters and indicators), and of all electrical appliances of whatsoever nature on board naval vessels, except motors and their controlling apparatus used to operate the machinery belonging to other bureaus.

It has charge of the design, manufacture, installation, maintenance, repair, and operation of radio telegraph outfits on board ship and of radio telegraph outfits and stations on shore.

It has charge of the design, manufacture, installation, maintenance, repair, and operation of aeroplane motors and propellers and their attachments.

It has supervision and control of the Engineering Experiment Station.

It designs the various shops at navy yards and stations where its own work is executed, so far as their internal arrangements are concerned.

*Publications.*—The only publication issued is the Annual Report, of which copies can be obtained while the limited edition is available by addressing Chief of Bureau of Steam Engineering, Navy Department, Washington, D. C.

## BUREAU OF SUPPLIES AND ACCOUNTS.

*Principal administrative officials.*—Paymaster General, Assistant to the Paymaster General, Civilian Assistant.

*General information and duties.*—The duties of the Bureau of Supplies and Accounts comprise all that relates to the purchase, reception, storage, care, custody, transfer, shipment, and issue of all supplies for the Naval Establishment, and the keeping of property accounts for the same (except supplies for the Marine Corps); the procuring of provisions, clothing, and small stores, and material under the naval supply account. This fund, which is administered by the Paymaster General of the Navy, governs the charging, crediting, receipt, purchase, transfer, manufacture, repair, issue, and consumption of all stores for the Naval Establishment, except for a few items which are specifically exempted. The two naval clothing factories also come under his control. He procures all coal, oil, fuel, and gasoline for steamers' and ships' use, including its transportation, storage, and handling, and water for all purposes on board naval vessels and the loading of all collier and tank ships and also charters of merchant ships for transportation purposes. He has supervision over all that relates to the supply of funds for disbursing officers, payment for articles and services for which contract and agreement have been made, and the keeping of the money accounts of the Naval Establishment, including accounts of all manufacturing and operating expense at the navy yards and stations; and the preparation of estimates for the pay of all officers and enlisted men of the Navy.

The Paymaster General of the Navy also has supervision over the loading and cargoes of supply ships; the approval of requisitions for provisions, cloth-

ing, and ships' store stocks; the scrutiny and approval or disapproval of reports of surveys on provisions, clothing, and ships' store stocks; the compilation of memoranda for the information of officers of the Pay Corps; requisitions for all supplies for the Navy, shipments, allotments under S. and A. appropriations and allotments for ships under all appropriations; the preparation and issuance of allowance lists of ships for S. and A. material; the purchase of typewriters, adding machines, and mess equipment; the utilization and disposition of excess stock which has accumulated at various yards; the preparation and issue of the Standard Stock Catalog and the Index to Classification of Naval Stores; the upkeep of yard stock, including reserve stock and naval supply account stock, and the scrutiny of navy-yard plans of storehouses and plans of new ships, in so far as pertains to S. and A.

He is responsible for the purchase of all supplies for the Naval Establishment, including provisions and clothing; the preparation and issue of all standard Navy specifications, schedules of proposed purchases, and the preparation of contracts and bureau orders in connection with purchases; for the keeping of all of the property and money accounts of the Naval Establishment and the audit of all property returns from ships and stations, including naval supply account stores, ordnance stores, provisions, ships' stores and clothing, and other miscellaneous materials; has the direction of naval cost accounting, including industrial yard accounting systems, and the maintenance of records of expenditures by titles and accounts and plant and ship records.

*General publications.*—(a) Manual for Accounting Officers, United States Navy. Topics covered: Navy classification of accounts; detailed classification of industrial accounts; industrial accounting instructions.

(b) Accounting bulletins are issued when modifications in the above manual are necessary.

(c) Manual for Supply Officers Afloat. A compilation of laws, regulations, and instructions regarding the general duties of a supply officer afloat.

*Method of distribution of general publications.*—Distributed to the service free.

*Annual and other periodical publications.*—(a) Annual Report of the Paymaster General of the Navy. Covers the activities of the Bureau of Supplies and Accounts. Not for sale.

(b) Memoranda for the Information of Officers of the Pay Corps, Commanding Officers of Ships, and Commandants of Stations. Contains decisions of the Comptroller of the Treasury, and notes and instructions for the information and guidance of officers of the Pay Corps. Published and distributed monthly to the service. Not for sale.

(c) Notices of Contracts made for Fuel and Coal. Issued monthly, quarterly, etc., as contracts are made for various items. Distributed to commandants of stations and heads of departments thereof, commanding officers of ships, engineering officers, officers of the Pay Corps, etc., for their information and guidance. Not for sale.

*Correspondence.*—Requests for information should be made to Paymaster General, Bureau of Supplies and Accounts, Navy Department.

## BUREAU OF MEDICINE AND SURGERY.

*Principal administrative officials.*—Chief of Bureau, Assistant to Bureau, Chief Clerk.

*General information and duties.*—The Bureau of Medicine and Surgery shall have charge of the upkeep and operation of all hospitals and of the force employed there; it shall advise with respect to all questions connected with hygiene and sanitation affecting the service, and to this end shall have opportunity for necessary inspection; it shall provide for physical examinations; it shall pass upon the competency, from a professional standpoint, of all men in the Hospital Corps for enlistment and promotion by means of examinations conducted under its supervision, or under forms prescribed by it; it shall have information as to the assignment and duties of all enlisted men of the Hospital Corps; it shall recommend to the Bureau of Navigation the complement of medical officers, dental officers, and Hospital Corps for hospital ships, and shall have power to appoint and remove all nurses in the Nurse Corps (female), subject to the approval of the Secretary of the Navy.

Except as otherwise provided for, the duties of the Bureau of Medicine and Surgery shall include the upkeep and operation of medical supply depots.

medical laboratories, naval hospitals, dispensaries, technical schools for the Medical and Hospital Corps, and the administration of the Nurse Corps (female), Dental Corps, and Medical Reserve Corps.

It shall approve the design of hospital ships in so far as relates to their efficiency for the care of the sick and wounded.

It shall make requisition for all supplies, medicines, and instruments used in the Medical Department of the Navy. It shall have control of the preparation, reception, storage, care, custody, transfer, and issue of all supplies of every kind used in the Medical Department for its own purposes.

*General publications.*—Material that may accumulate in the bureau, of general value to the medical profession or to the Medical Corps of the Navy, is published at occasional intervals by the bureau, such as the issue in 1915 of "The Report on the Medico-Military Aspects of the European War," by one of our naval medical officers abroad, Surgeon A. M. Fauntleroy, United States Navy. This edition is now exhausted. Other recent publications are "Manual for the Medical Department of the United States Navy," 1917, "Medical Compend for Masters of the Naval Auxiliary Service," 1917, and "Handy Book for the Hospital Corps, United States Navy," 1917. Information of a similar type as it becomes available and as it contains material of general interest and available for distribution without violation of international ethics is published by this bureau. Work and activities of a briefer nature are almost invariably embodied in the periodical publication mentioned below. In addition, various booklets are published by the bureau for the information and guidance of the Medical and Hospital Corps of the Navy, etc.

*Method of distribution of general publications.*—These are distributed free to a limited mailing list, and are also sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., at a fraction over the cost of production.

*Annual and other periodical publications.*—These include the following: (1) The most important of the bureau's publications is the Annual Report of the Surgeon General, which, besides a review of the activities of the Medical Department, reports from ships, hospitals, and stations, and brief discussion of developments and improvements for the fiscal year, contains complete statistical tables of the nosology and mortality of the Navy for the calendar year. The effects of various diseases upon the personnel, their unusual incidence, any unusual facts in connection with their origin, distribution, etc., fatalities, activities of the Medical Department ashore and afloat, and needs of the Medical Department as regards material and personnel, are thoroughly discussed and reviewed in this publication.

(2) The United States Naval Medical Bulletin is an illustrated quarterly publication contemplating the timely distribution of such information as is deemed of value to the medical officers of the Navy in the performance of their duties. It embodies matters relating to hygiene, tropical, and preventive medicine, pathology, laboratory suggestions, chemistry and pharmacy, advanced therapeutics, surgery, dentistry, medical department organization for battle, and all other matters of a more or less professional interest and important under the conditions peculiar to the service and pertaining to the physical welfare of the Navy personnel. Reviews of the advances in medical sciences of special professional interest to the service, as published in foreign and home journals, receive particular attention.

(3) The Supplement to the United States Naval Medical Bulletin is published quarterly for the instruction of members of the Hospital Corps in the subjects of nursing, preparation and sterilization of dressings, operating room technique, hygiene, sanitation, disinfection, pharmacy, etc. It contains information regarding examinations, promotions, and a record of the meritorious accomplishments of members of the Hospital Corps. These three publications are distributed free to a limited mailing list, and in addition, the United States Naval Medical Bulletin is sold by the Superintendent of Documents, Government Printing Office, at an annual rate of \$1, a quarterly rate of 25 cents a copy.

(4) Bulletin of the Division of Sanitation (Notes on preventive medicine, confidential) is published weekly for the information of medical officers. It contains the week's reports of infectious and contagious diseases at naval stations and comment on current sanitary matters, brief suggestions, epitomized reports of recent developments in preventive medicine, etc. This publication is for circulation only to medical officers of the service.

(5) Gas Defense Bulletin (confidential), for medical officers of the service. Issued from time to time as occasion arises to disseminate information on this topic.

*Indexes.*—No indexes are issued other than the annual index of the Naval Medical Bulletin, which is included in the October number of each year.

*Mailing lists.*—A free mailing list is maintained as mentioned above, comparatively limited in its nature owing to cost of distribution.

*Correspondence.*—In requesting copies of publications address the Surgeon General, United States Navy.

## OFFICE OF THE JUDGE ADVOCATE GENERAL.

*Principal administrative officials.*—Judge Advocate General, Assistant to the Judge Advocate General, Law Clerk.

*General information and duties.*—The duties of the Judge Advocate General of the Navy are as follows: To revise and report upon the legal features of and have recorded the proceedings of all courts-martial, courts of inquiry, boards of investigation and inquest, and boards for the examination of officers for retirement and promotion in the naval service; to prepare charges and specifications for courts-martial, and the necessary orders convening courts-martial in cases where such courts are ordered by the Secretary of the Navy; to prepare court-martial orders promulgating the final action of the reviewing authority in court-martial cases; to prepare the necessary orders convening courts of inquiry in cases where such courts are ordered by the Secretary of the Navy, and boards for the examination of officers for promotion and retirement, for the examination of all candidates for appointment as officers in the naval service, other than midshipmen, and in the Naval Reserve Forces and National Naval Volunteers, and to conduct all official correspondence relating to such courts and boards. It is also the duty of the Judge Advocate General to examine and report upon all questions relating to rank and precedence, to promotions and retirements, and those relating to the validity of the proceedings in court-martial cases; all matters relating to the supervision and control of naval prisons and prisoners, including prisoners of war; the removal of the mark of desertion; the correction of records of service and reporting thereupon in the Regular or Volunteer Navy; certification of discharge in true name; pardons; bills and resolutions introduced in Congress relating to the personnel and referred to the department for report, and the drafting and interpretation of statutes relating to the personnel; references to the Comptroller of the Treasury with regard to pay and allowances of the personnel; questions involving points of law concerning the personnel; proceedings in the civil courts in all cases concerning the personnel as such; and to conduct correspondence respecting the foregoing duties, including the preparation for submission to the Attorney General of all questions relating to subjects coming under his own cognizance which the Secretary of the Navy may direct to be so referred. The study of international law is assigned to the Office of the Judge Advocate General. He shall examine and report upon questions of international law, as may be required.

*General publications.*—(1) Manual for the Government of United States Naval Prisons. (2) Regulations Concerning Neutrality Duty in Connection with and the Internment of Belligerent Vessels of War. (3) Court-Martial Orders. (4) Naval Courts and Boards. (5) Naval Digest, 1916. (6) Laws Relating to the Navy Annotated.

*Method of distribution of general publications.*—The publications enumerated in the preceding paragraph are issued for the information and guidance of the naval service and are not available for general distribution, otherwise than by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C.

*Annual and other periodical publications.*—(1) Annual Report of the Judge Advocate General of the Navy. Distributed free to a selected list of Government officials and others interested therein.

(2) Court-Martial Index Digest. This index contains a brief digest of decisions of the Secretary of the Navy and opinions of the Judge Advocate General of the Navy, published in court-martial orders and bulletins for the year.

*Indexes to publications.*—Indexes have been published of court-martial orders for the years 1914, 1915, and 1916. These indexes are issued for the information and guidance of the naval service and are not available for general distribution, otherwise than by purchase from the Superintendent of Documents.

*Mailing lists.*—No free mailing lists for publications are maintained other than for the Annual Report of the Judge Advocate General.

*Correspondence.*—Address all correspondence to Judge Advocate General of the Navy, Navy Department, Washington, D. C.

## SOLICITOR OF THE NAVY.

*Principal administrative officials.*—Solicitor of the Navy Department, Chief Clerk.

*General information and duties.*—The duties of the Solicitor comprise and relate to examination and report upon questions of law, including the drafting and interpretation of statutes, and matters submitted to the accounting officers not relating to the personnel; preparation of advertisements, proposals, and contracts; insurance; patents; the sufficiency of official, contract, and other bonds and guaranties; proceedings in the civil courts by or against the Government or its officers in cases relating to material and not concerning the personnel as such; claims by or against the Government; questions submitted to the Attorney General, except such as are under the cognizance of the Judge Advocate General; bills and congressional resolutions and inquiries not relating to the personnel and not elsewhere assigned; the searching of titles, purchase, sale, transfer, and other questions affecting lands and buildings pertaining to the Navy; the care and preservation of all monuments of title to land acquired for naval uses; and the correspondence respecting the foregoing duties; and rendering opinion upon any matter or question of law referred to him by the Secretary or Assistant Secretary.

*Publications.*—The only publication issued available for distribution is the Annual Report to the Secretary of the Navy, which is for free distribution as long as the limited edition is available.

## HEADQUARTERS MARINE CORPS.

*Principal administrative officials.*—Major General Commandant's Office: Commandant Marine Corps, Assistant to Commandant, Special Assistant to Commandant, Chief Clerk. Adjutant and Inspector's Department: Adjutant and Inspector Marine Corps, Chief Clerk. Quartermaster's Department: Quartermaster Marine Corps, Special Assistant to Quartermaster, Chief Clerk. Paymaster's Department: Paymaster Marine Corps, Chief Clerk. Marine Barracks (Eighth and I Streets SE., Washington, D. C.): Commanding Officer Marine Barracks.

*General information and duties.*—The Major General Commandant of the Marine Corps is responsible to the Secretary of the Navy for the general efficiency and discipline of the corps; makes such distribution of officers and men for duty at the several shore stations as shall appear to him to be most advantageous for the interests of the service; furnishes detachments for vessels of the Navy according to the authorized scale of allowance; under the direction of the Secretary of the Navy, issues orders for the movement of officers and troops, and such other orders and instructions for their guidance as may be necessary; and has charge and exercises general supervision and control of the recruiting service of the corps, and of the necessary expenses thereof, including the establishment of recruiting stations.

*General publications.*—(a) Marine Corps Orders. These are issued to all posts and officers of the Marine Corps, from time to time, as circumstances may require, and contain information and instructions for the guidance of those in the service relative to such topics as the following: Absence, accounts, ammunition, appointments, badges, clothing, cooks, correspondence, courts-martial, desertion, discharges, discipline, enlistment, examinations for promotion, forage, fuel, furloughs, insignia, leave, medals, muster rolls, pay rolls, post exchanges, rations, reserve, Fleet Marine Corps, recruiting, reenlistment, sickness, staff returns, stragglers, subsistence, supplies, surveys of personnel and property, uniforms, etc.

(b) Marksmanship Qualifications. These orders contain the names and ratings of men who qualify as marksmen, sharpshooters, and expert riflemen in small-arms rifle practice.

(c) Illustrated Booklet. Duties, experiences, opportunities, and pay of men who enlist in the Marine Corps.

(d) Manual of the Paymaster's Department, United States Marine Corps. Pertains to the rights of officers and enlisted men of the Marine Corps to



statutory pay and allowances and the manner and methods used in accounting therefor. This publication is now out of print, but is in the course of revision.

(e) *System of Accountability, United States Marine Corps, 1916.* Pertains to the accountability of property, etc., and all other duties of the Quartermaster's Department, United States Marine Corps.

(f) *Instructions Governing Transportation of Troops and Supplies for United States Marine Corps, Revised 1916.* Pertains to transportation of troops and supplies as furnished by the Quartermaster's Department, United States Marine Corps.

(g) *Uniform Regulations, United States Marine Corps, 1912.* Pertains to all uniforms used in the United States Marine Corps.

*Method of distribution of general publications.*—These are furnished without cost to persons in the Government service who require same for official use.

*Annual and other periodical publications.*—(a) *The Recruiters' Bulletin.* Published monthly in the interest of the recruiting service; distributed free.

(b) *Annual Report of the Major General Commandant of the Marine Corps to the Secretary of the Navy on the Condition and Service of the Corps.* This report covers such general topics as the following: Advanced-base work; Appointment of officers; Aviation; Badges; Barracks and quarters, reports and recommendations concerning; Casualties; Deaths; Depots, recruit; Depots, supply; Desertions; Discharges; Distribution of force; Duties of commissioned and enlisted personnel; Enlistments and reenlistments; Expeditions, foreign; Instruction of personnel; Maneuvers; Marksmanship; Organization; Recommendations for legislation pertaining to personnel and material; Recruiting; Resignations; Retirements; Schools of instruction; Service on board vessels of the Navy and at shore stations; Strength of commissioned and enlisted personnel, etc.

*Mailing lists.*—A free mailing list is maintained for the Annual Report of the Major General Commandant, The Recruiters' Bulletin, and the Illustrated Booklet.

*Correspondence.*—(a) For copies of the Annual Report of the Major General Commandant, address the Major General Commandant, Headquarters, United States Marine Corps, Washington, D. C.

(b) For copies of The Recruiters' Bulletin and Illustrated Booklet address the Recruiting Publicity Bureau, 117 East Twenty-fourth Street, New York, N. Y.

(c) For copies of The Manual of the Paymaster's Department, United States Marine Corps, address the Paymaster, Headquarters, United States Marine Corps, Washington, D. C.

## PART VII.—DEPARTMENT OF THE INTERIOR.

(For location of department and bureaus, see page 189.)

### OFFICE OF THE SECRETARY.

*Principal administrative officials.*—Secretary of the Interior; First Assistant Secretary; Assistant Secretary; Assistant to the Secretary; Chief Clerk and Superintendent of Buildings; Solicitor; Board of Appeals; First Assistant Attorney; Chiefs: Division of Disbursing, Division of Appointments, Mails, Files, and Archives, Division of Publications, Division of Supplies.

*General information and duties.*—The Secretary of the Interior is charged with the supervision of public business relating to patents for inventions, pensions and bounty lands, the public lands and surveys, the Indians, the Bureau of Education, the Geological Survey, the Reclamation Service, the Bureau of Mines, National Parks, the Capitol Building and Grounds, distribution of appropriations for agricultural and mechanical colleges in the States and Territories and certain hospitals and eleemosynary institutions in the District of Columbia. By authority of the President the Secretary of the Interior has general supervision over the work of constructing the Government railroad in the Territory of Alaska. He also exercises certain other powers and duties in relation to the Territories of Alaska and Hawaii.

The First Assistant Secretary, in the absence of the Secretary, becomes Acting Secretary. He is especially charged with supervision of the business of the General Land Office, including cases appealed to the Secretary of the Interior from decisions of that bureau involving public lands; applications for easements or rights of way for reservoirs, ditches, railroads, telephone and power-transmission lines; selections of public lands under grants made by Congress to aid in the construction of railroads and wagon roads, for reclamation, and for the benefit of educational and other public institutions, etc. National park matters and Indian affairs affecting the disposal of the public domain are under his supervision. He considers proposed legislation pertaining to matters under his administration. From time to time duties in connection with the affairs of other bureaus of the department are assigned to him.

The Assistant Secretary has general supervision over all matters concerning the Patent Office, the Pension Office (including appeals from the decisions of the Commissioner of Pensions), Indian Office matters with the exception of those involving oil lands, the Bureau of Education, the Capitol building and grounds, the execution of contracts and the approval of vouchers covering expenditures of money for the eleemosynary institutions under the Department of the Interior in the District of Columbia (including St. Elizabeth's Hospital), and various miscellaneous matters over which the department has jurisdiction. He also considers proposed legislation pertaining to matters under his administration. Duties in connection with the affairs of other bureaus are assigned to him from time to time.

The Assistant to the Secretary is charged with the general supervision of matters relating to the Reclamation Service, Bureau of Mines, and Indian Office matters affecting oil lands. He is also in charge of the affairs of the Alaskan Railroad and is the direct representative of the Secretary of the Interior in matters pertaining to the construction, operation, and maintenance of the Alaskan Railroad, and is authorized to receive, pass upon, approve, execute, or disapprove contracts, tariffs, regulations, vouchers, and other papers relating to the railroad. He has supervision of the detailed work relating to the Territories of Alaska and Hawaii under the Department of the Interior. In addition, he considers proposed legislation pertaining to the activities under his administration.

The Chief Clerk, as the chief executive officer of the department and the administrative head of the Office of the Secretary, has supervision over the clerks and other employees of the department (including the watch, mechanical, and labor forces), enforces the general regulations of the department, and

is superintendent of the several buildings occupied by the department. He also supervises the classification and compilation of all estimates of appropriations, and has general supervision of expenditures from appropriations for contingent expenses for the department, including stationery and postage on mail addressed to postal-union countries. The detailed work relating to corporate sureties on bonds, to eleemosynary institutions in the District of Columbia under the Department of the Interior, the Capitol building and grounds, the admission of attorneys and agents to practice and disbarments from practice, the office of the Returns Clerk, and miscellaneous matters is done in his office. During the temporary absence of the Secretary and the Assistant Secretaries he may be designated by the Secretary to sign official papers and documents.

*General publications.*—Planning of Alaskan Ports, 1916, 24 pages, 13 plates. Includes discussion of harbor lines, authoritative control, haphazard and pre-arranged development, and suggested procedure.

Government Reclamation Work in Foreign Countries, 1909, 115 pages. Includes general discussion of Government participation in land reclamation work in Austria, Belgium, France, Germany, Prussia, Italy, The Netherlands, Russia, Spain, Switzerland, Algeria, Cape Colony, Egypt, The Transvaal, Argentina, Canada, Dominica, Ceylon, Formosa, India, Java, Slam, Victoria (Australia), New South Wales, South Australia, and New Zealand; Government participation in drainage and unwatering only, in Denmark, Greece, Mexico, Norway, Sweden; reclamation by private enterprise in Brazil, Chile, China, Ecuador, Peru, Salvador, Servia, and Turkey.

Laws Relating to the Protection of the Lives of Coal Miners in the Territories, 1891, 1906, 12 pages. Includes act approved March 3, 1891; act approved July 1, 1902; decisions by the Assistant Attorney General construing the above acts from 1891 to 1906.

Hetch Hetchy Valley. Report of the Advisory Board of Army Engineers to the Secretary of the Interior on Investigations relative to the Sources of Water Supply for San Francisco and Bay Communities, 1913, illustrated, 146 pages. Includes reports by the Advisory Board and H. H. Wadsworth, giving estimates of cost, future development, and possible supplies of water.

Regulations Governing Coal-Land Leases in the Territory of Alaska, 1916, 86 pages with maps. Includes the coal-land leasing act approved October 20, 1914; regulations, information relating to operation and development, and illustrations of leasing units and Government reservations in the Matanuska and Bering River fields.

Coal Lands in the Indian Territory, 1906, 52 pages with map. Includes data in regard to acreage, approximate value, thickness of veins, hearings on coal deposits, segregated lands, and location of Choctaw Nation coal-land leases, prospect drill holes, etc.

Memorandum History of the Department of the Interior, 1912, 20 pages. Includes references to recommendations favoring creation of the department, act of March 3, 1849, and subsequent acts, buildings occupied by the department, and various activities.

General Information regarding Department of the Interior, 1917, 24 pages. Includes a list of the bureaus and other institutions connected with the department and a statement of general information and duties of each. There is also included an enumeration of price lists of publications sold by the Superintendent of Documents, and a list of maps issued by the United States Government with description of each.

General Information regarding Alaska, 1917, 72 pages. Includes in a concise form information in regard to history, geography, climate, government, population, resources, schools, list of newspapers, three maps, and an official directory.

Rules of Practice, 1915, 24 pages. Includes 99 rules governing proceedings in the cases involving the public lands, before United States district land offices, the General Land Office, and the Department of the Interior.

Decisions of the Department of the Interior relating to Public Lands, vols. 1 to 45. Includes decisions of the Secretary of the Interior in cases appealed from decisions of the Commissioner of the General Land Office, upon petitions for the exercise of supervisory authority, and upon motions for rehearing of departmental decisions. It also includes regulations governing disposal of public lands and amendments to the Rules of Practice. Sold by Superintendent of Documents.

Decisions of the Department of the Interior in Appealed Pension and Bounty-Land Claims, vols. 1 to 19. Contains decisions of the Secretary in the above

class of cases appealed from the Commissioner of Pensions. Sold by Superintendent of Documents.

*Method of distribution of general publications.*—The volumes of Decisions of the Department are sold by the Superintendent of Documents as noted above. All of the other publications are distributed free of charge upon application to the Secretary of the Interior.

*Annual and other periodical publications.*—Annual Report of the Secretary of the Interior for the Fiscal Year to the President of the United States. This includes a statement of the activities of the several bureaus under the department and recommendations for future legislation or other requirements.

Laws relating to the Department of Interior. This volume is compiled and published following each session of Congress, and contains the laws relating to the department which have been enacted.

Reports are made annually to the Secretary of the Interior by the following: Governor of Alaska, Governor of Hawaii, Government Hospital for the Insane, Howard University, Freedmen's Hospital, Columbia Institute for the Deaf, Superintendent of the United States Capitol Buildings and Grounds.

Reports were formerly made by the following officials, the latest report available being for the year indicated: Governor of Oklahoma, 1907; Governor of Arizona, 1911; Governor of New Mexico, 1911; Mine Inspection for the Territory of New Mexico, 1911.

*List of publications.*—No list of publications is issued by the department.

*Maps.*—A list of maps is included in the pamphlet "General Information regarding the Department of the Interior," and the department publishes a wall map of the United States, 84 by 61 inches in size, with scale of 37 miles to the inch, which is mounted on linen and attached to rollers for hanging. It includes insets showing Alaska, the Canal Zone, and Insular Possessions. At times the secretary has a limited number of these maps for distribution to schools and public libraries (one to each institution). They may be purchased from the Superintendent of Documents, Government Printing Office, for \$1.

*Correspondence.*—Correspondence relating to the publications distributed free of charge should be addressed to the Secretary of the Interior, Washington, D. C. Correspondence regarding publications for sale should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C.

## ALASKAN ENGINEERING COMMISSION.

*Principal administrative officials.*—Assistant to the Secretary of the Interior in charge of Alaskan affairs, Commissioners, Chairman and two other members, Purchasing Agent, Examiner of Accounts.

*General information and duties.*—The Alaskan Engineering Commission was created under the act of March 12, 1914, which empowered, authorized, and directed the President to locate, construct, operate, or lease a railroad, or railroads, to connect the interior of Alaska with one or more of the open navigable ports on the coast. Authority was also granted to purchase existing railroads, to construct, maintain, and operate telegraph and telephone lines, and to make reservations of public lands in Alaska necessary for the purposes of the railroad.

For the execution of this work a commission of three engineers was appointed by the President to make the necessary surveys. They were directed to report to the Secretary of the Interior, under whom the President placed the general administration of the work. After the completion of the preliminary surveys, the President by Executive order selected the route for the railway from the coast to the interior, and continued the original commission of engineers in charge of the construction under the general supervision of the Secretary of the Interior.

*Annual and other periodical publications.*—The commission makes annual reports. The first report, which includes an account of operations from March 12, 1914, to December 31, 1915, was published as House Document No. 610, 64th Congress, 1st session, and may be obtained from the Superintendent of Documents, Government Printing Office, for 75 cents. The second report was printed as Senate Document No. 741, 64th Congress, 2d session. No copies of this report are available for distribution.

The commission on November 14, 1916, began the publication, "Alaska Railroad Record," a weekly periodical intended to furnish information as to progress

on the Government Railroad in Alaska. Single copies are furnished to individuals at 5 cents a copy, or \$1.50 a year. Copies may be obtained free by libraries, foreign and United States Government departments upon application to the Alaskan Engineering Commission, Anchorage, Alaska.

*Mailing lists.*—The commission does not maintain a free mailing list for its reports; a mailing list is maintained at Anchorage, Alaska, for persons to whom free copies of the "Alaska Railroad Record" are sent.

*Maps.*—No maps other than those accompanying the Annual Reports are published.

*Correspondence.*—Requests for publications of this commission should be addressed to the Alaskan Engineering Commission, Washington, D. C.

## ST. ELIZABETH'S HOSPITAL.

*Principal administrative officials.*—Superintendent, First Assistant Physician, Chief of Training School for Nurses, Chief Clerk.

*General publications.*—(a) Intracranial Tumors among the Insane. A Study of Twenty-nine Intracranial Tumors found in Sixteen Hundred and Forty-Two Autopsies in Cases of Mental Disease. By I. W. Blackburn. 1903.

(b) Illustrations of the Gross Morbid Anatomy of the Brain of the Insane. A Selection of Seventy-five Plates showing the Pathological Conditions Found in Post-Mortem Examinations of the Brain in Mental Diseases. By I. W. Blackburn. 1908.

(c) Lessons in Cooking, Theoretical, and Practical, for the Sick and Convalescent. Apply to Superintendent of Documents, Government Printing Office, Washington, D. C. Price 5 cents.

*Method of distribution of general publications.*—Publication on "Intracranial Tumors" is distributed free. Apply to Superintendent, St. Elizabeth's Hospital, Washington, D. C. Publication on "Gross Morbid Anatomy of the Brain" is sold. Apply to Superintendent of Documents, Government Printing Office, Washington, D. C.

*Annual and other periodical publications.*—(a) Report of St. Elizabeth's Hospital to the Secretary of the Interior for the Fiscal Year. Issued annually (formerly under the name of Government Hospital for the Insane). Contains statement of the condition of the institution, statistical tables regarding the admissions, discharges, diseases, and deaths of patients, the activities of the different departments of the hospital, etc. Distributed free. Apply to Superintendent of St. Elizabeth's Hospital, Washington, D. C.

(b) Government Hospital for the Insane, Bulletin. Five numbers published in 1909, 1910, 1911, 1912, and 1913 contain accounts of scientific work carried on at St. Elizabeth's Hospital in the years preceding publications. Also a bibliography of publications by members of the staff of the hospital since 1902 and up to and inclusive of June 30, 1913. (Bibliographies were begun in the Bulletin for 1911.) The numbers may be obtained from the Superintendent of Documents, Washington, D. C. Prices: No. 1, 15 cents; No. 2, 25 cents; No. 3, 20 cents; No. 4, 10 cents; No. 5, 10 cents.

*List of publications.*—No list of publications is available, except in the Annual Reports and in the Bulletins mentioned above.

*Indexes to publications.*—No indexes to publications have been issued.

*Mailing lists.*—For the Annual Reports and for the Bulletins already published there have been free mailing lists, mainly for other hospitals for the insane in this country and abroad.

*Correspondence.*—For free publications address: Superintendent, St. Elizabeth's Hospital, Washington, D. C. For publications on sale address: Superintendent of Documents, Government Printing Office, Washington, D. C.<sup>1</sup>

<sup>1</sup>Most of the scientific papers of the hospital appear in journals appropriate to the material of publication. Only a small number of the scientific studies are included under annual and periodical publications. The following journals are those in which articles have appeared: Interstate Medical Journal; Journal of the American Medical Association; Journal of Animal Behavior; Journal of Comparative Neurology; Journal of Experimental Psychology; Journal of Nervous and Mental Diseases; Journal of Philosophy, Psychology, and Scientific Methods; Nervous and Mental Disease Monographs; New York Medical Journal; Psychoanalytic Review; Psychological Bulletin; Psychological Monographs; Psychological Review; Science.

## COLUMBIA INSTITUTION FOR THE DEAF.

*Principal administrative officials.*—Patron ex officio, President of the United States; President; Directors; Secretary; Treasurer.

*Annual and other periodical publications.*—(a) Annual Report published at Government Printing Office; (b) Catalogue of Gallaudet College (advanced department). Both are distributed free.

*Mailing lists.*—List of libraries, institutions for the deaf, etc., is maintained.

*Correspondence.*—Requests for publications should be addressed to the President of the Columbia Institution for the Deaf, Washington, D. C.

## HOWARD UNIVERSITY.

*Principal administrative officials.*—Patron ex officio, Secretary of the Interior; President of the Board of Trustees; President; Secretary; Treasurer.

*Publications.*—Annual Report to the Secretary of the Interior. Distributed free on application to the president of the university. Also publishes the Howard University Record, issued seven times a year, including university catalogues and departmental monographs.

## FREEDMEN'S HOSPITAL.

*Principal administrative officials.*—Surgeon in Chief, Assistant Surgeon.

*General publications.*—Rules and Regulations of the Freedmen's Hospital.

*Method of distribution of general publications.*—Distributed free.

*Annual and other periodical publications.*—Annual Report to the Secretary of the Interior. Distributed free.

*Correspondence.*—Surgeon in Chief, Freedmen's Hospital, Washington, D. C.

## GENERAL LAND OFFICE.

*Principal administrative officials.*—Commissioner; Assistant Commissioner; Chief Clerk; Chief Law Clerk; Appointment Clerk; Receiving Clerk; Recorder; Chiefs of Divisions: Accounts, Contest, Desert and Indian Lands, State Selections, etc., Drafting, Field Service, Homestead, Timber, and Stone, Mails and Files, Mineral, Posting and Tract Records, Public Surveys, Railroad Grants and Rights of Way, Reclamation, Lieu Selections, and Special Entries.

*General information and duties.*—The Commissioner of the General Land Office is charged with the survey, management, and disposition of the public lands, the adjudication of conflicting claims relating thereto, the granting of railroad and other rights of way, easements, the issuance of patents for lands, and with furnishing certified copies of land patents and of records, plats, and papers on file in his office. In national forests he executes all laws relating to surveying, prospecting, locating, appropriating, entering, reconveying, or patenting of public lands, and to the granting of rights of way amounting to easements.

*General publications.*—The following publications are available for distribution:

Suggestions to Homesteaders.

Homestead Entries within National Forests.

Homestead Entries in Nebraska under the Kinkaid Act.

Coal Land Laws.

Sunk Lands in Arkansas.

Drainage Entries in Minnesota.

Vacant Public Lands.

Absences from Settlements made on Unsurveyed Lands.

Cutting of Timber by Entrymen on their Homestead Claims.

Soldiers' and Sailors' Homestead Rights.

Second Homestead and Desert land Entries.

Designation of Land under the Enlarged Homestead Act.

Entries and Proof under the Desert-land Laws.

Relief of Desert-land Entrymen.

Reclamation of Arid Lands by the United States.

Purchase of Land Valuable for Timber and Stone.

Mining Laws of the United States.

- Acquisition of Title to Public Land in Alaska.  
 Rights of Way over Public Lands and Reservations.  
 Selection of Lands by States under Grants for Educational and other Purposes. (School lands.)  
 Restoration of Lost or Obliterated Corners Established by Surveyors.  
 Surveys of Homestead Entries within National Forests.  
 Amendment of Entries of Public Lands.  
 Offerings of Isolated Tracts of Public Lands at Public Sale.  
 Exchange of Lands within Indian Reservations for Public Lands.  
 Bounty-land Warrants—their Assignment, Location, and Use.  
 Free Use of Timber on Public Lands.  
 Sale of Fire-killed and Damaged Timber on Public Lands.  
 Townsites, Parks, and Cemeteries on Public Lands.  
 Recognition of Agents and Attorneys before the Department of the Interior and its Bureaus.  
 Proceedings (contests) against Entries within National Forests.  
 Proceedings (contests) initiated upon a Report by a Representative of the General Land Office.  
 Practice (rules) in Cases before the United States District Land Offices, the General Land Office, and the Department of the Interior.  
 Certified Copies of Records and Papers pertaining to the Disposition of Public Lands, and the Cost Thereof.  
*Method of distribution of general publications.*—Above publications are distributed free.  
*Annual and other periodical publications.*—On July 1 of each year there is issued a statement of the vacant public land on that day, arranged by States, land districts, and counties. Distributed free.  
 A limited supply of the Commissioner's Annual Report to the Secretary of the Interior is printed for free distribution.  
*List of publications.*—A list of publications is available for free distribution. No monthly list of publications is issued.  
*Mailing lists.*—A free mailing list for publications is maintained, but it is limited to attorneys, agents, abstract companies, and officers authorized by statute to administer oaths in public-land cases.  
*Maps.*—Maps of the public-land States and Alaska are prepared by this Bureau and sold through the Superintendent of Documents, Government Printing Office, Washington, D. C., at 25 cents each, except that of California, in two parts, which costs 50 cents. A large wall map of the United States, prepared by this Bureau, is sold by the Superintendent of Documents for \$1; copies thereof are delivered to Congress for free distribution.  
*Correspondence.*—Requests for publications should be addressed to the Commissioner of the General Land Office, Washington, D. C.

## OFFICE OF INDIAN AFFAIRS.

*Principal administrative officials.*—Commissioner of Indian Affairs; Assistant Commissioner; Chief Clerk; Law Clerk; Chief Inspector; Board of Review; Chiefs: Division of Education, Land Division, Division of Finance, Purchase Division, and Probate Division.

*General information and duties.*—The Commissioner of Indian Affairs has charge of the Indian Tribes of the United States (exclusive of Alaska), their education, lands, moneys, schools, purchase of supplies, and general welfare.

*General publications.*—The following three publications are distributed by the Indian Office:

- (1) Indian Babies, How to Keep them Well. (Pamphlet.)
- (2) Correspondence of James S. Calhoun, 1848-1852, while he was Indian Agent at Santa Fe, and Superintendent of Indian Affairs in New Mexico. Edited by Annie H. Abel, 554 pages (small edition).
- (3) Tentative Course of Study. (Pamphlet.) Edition nearly exhausted. The following are on sale by the Superintendent of Documents:
  - (1) Digest of Decisions Relating to Indian Affairs, by E. S. Murchison, Vol. 1, Judicial, 667 pages; Vol. 2 not issued.
  - (2) Red Cloud Agency, Report of Special Commission to Investigate, July, 1876, with Testimony and Accompanying Documents. Paper.
  - (3) Farm and Home Mechanics. (Pamphlet.)
  - (4) Outline Lessons in Housekeeping. (Pamphlet.)

- (5) Synopsis Course in Sewing. (Pamphlet.)
- (6) Some Things Girls should Know how To Do. (Pamphlet.)
- (7) Social Plays, Games, etc. (Pamphlet.)
- (8) Trachoma, Management and Treatment among Indians. (Pamphlet.)
- (9) Manual on Tuberculosis, its Cause, Prevention, and Treatment.
- (10) Regulations governing Approval of Wills of Indians, 1913.

*Method of distribution of general publications.*—The first three of the above publications are distributed by the Indian Office. The last 10 are sold by the Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—(1) Annual Reports from 1825 to date. Reports for 1915 and 1916 are distributed free. Editions of earlier editions may in some cases, where available, be purchased from the Superintendent of Documents. Prices vary according to the size of the report.

(2) Many Government Indian schools publish small periodicals, the purpose being to train students in the art of printing and to record the school and neighborhood news for students and alumni.

*List of publications.*—The Indian Office has not published a list of publications, but the Superintendent of Documents has issued a Price List (No. 24) of publications on Indians which includes all publications by the Government on Indians that are available for sale, including those of the Bureau of Ethnology.

*Mailing lists.*—Free mailing lists are maintained for those interested.

*Maps.*—(a) A map of the United States showing Indian reservations is published annually, most of the edition being bound with the annual reports.

(b) Blue prints or photolithographic copies of maps of Indian reservations are for sale by the Indian Office, at 25 cents each, listed as follows: Colorado River, Ariz.; Klamath River, Cal.; Fort Berthold, N. Dak.; White Earth, Minn.; Navajo, N. Mex. and Ariz.; Qualla Boundary, N. C.; Lac Court Oreilles, Wis.; Menominee, Wis.; Stockbridge, Wis.; Osage, Okla.; Nez Perce (former), Idaho; Quinalt, Wash.; Fort Hall, Idaho; Pine Ridge, S. Dak.; Spokane, Wash.; Mescalero, N. Mex.; Allegany, N. Y.; Oil Springs, N. Y.; Wind River (ceded land shown), Wyo.; Wind River (diminished lands only), Wyo.; Zuni, N. Mex.; L'Anse, Mich.; Ontonagon, Mich.; Red Cliff, Wis.; Leech Lake, Minn.; Flathead, Mont.; Jicarilla, N. Mex.; Cattaraugus, N. Y.; Fort Apache, Ariz.; Grand Portage, Minn.; Makah, Wash.; Round Valley, Cal.; Siletz (former), Oreg.; San Carlos, Ariz.; Southern Ute, Colo. and N. Mex.; Warm Springs, Oreg.; Swinomish, Wash.; Lummi, Wash.; Port Madison, Wash.; Tongue River, Mont.; Umatilla, Oreg.; Vermillion Lake, Minn.; Blackfeet, Mont.; Crow, Mont.; Fort Peck, Mont.; Fort Belknap, Mont.; Northern Cheyenne, Mont.; Yakima, Wash.; Colville, Wash.; Skokomish, Wash.; Fond du Lac, Minn.; Bois Fort, Minn.; Red Lake, Minn.; Onelda, N. Y.; Onondaga, N. Y.; St. Regis, N. Y.; Tonawanda, N. Y.; Tuscarora, N. Y.; Santa Clara, N. Mex.; Standing Rock, S. Dak.; Cheyenne River, S. Dak.; Crow Creek, S. Dak.; Lower Brule, S. Dak.; Rosebud, S. Dak.; Yankton, S. Dak.; Turtle Mountain, N. Dak.; Coeur d'Alene, Idaho; Lemhi, Idaho; Lac Du Flambeau, Wis.; Bad River, Wis.; Colorado River, Ariz.; Gila Bend, Ariz.; Jemez, Pueblo, N. Mex.; Sia, Pueblo, N. Mex.; Acoma, Pueblo, N. Mex.; Sandia, Pueblo, N. Mex.; San Juan, Pueblo, N. Mex.; Isleta, Pueblo, N. Mex.; Picuris, Pueblo, N. Mex.; Nambe, Pueblo, N. Mex.; San Felipe, Pueblo, N. Mex.; Laguna, Pueblo, N. Mex.; Pecos, Pueblo, N. Mex.; Santa Domingo, Pueblo, N. Mex.; Toas, Pueblo, N. Mex.; Santa Clara, Pueblo, N. Mex.; Santa Clara Reservation, N. Mex.; Tesuque, Pueblo, N. Mex.; San Ildefonso, Pueblo, N. Mex.; Pojoaque, Pueblo, N. Mex.

*Correspondence.*—Requests for publications should be addressed to the Commissioner of Indian Affairs, Indian Office, except for the publications which are indicated for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C.

## BUREAU OF PENSIONS.

*Principal administrative officials.*—Commissioner; Deputy Commissioner; Disbursing Clerk; Chief Clerk; Medical Referee; Law Clerk; Chiefs: Board of Review, Army and Navy Division, Certificate Division, Civil War Division, Finance Division, Law Division, Mail and Supplies, Record Division, Special Examination Division, Admitted Files.

*General information and duties.*—The Commissioner of Pensions supervises the examination and adjudication of all claims arising under laws passed by Congress granting pensions on account of service in the Army or Navy rendered wholly prior to October 6, 1917; claims for reimbursement for the expenses of



the last sickness and burial of deceased pensioners; and also claims for bounty-land warrants based upon military or naval service rendered prior to March 3, 1855.

*General publications.*—(a) Orders, Instructions, and Regulations governing Pension Bureau. (3-1239.) This publication contains a description of the organization of the bureau, rules of discipline in force, methods of conducting business, and rules of evidence in the adjudication of pension claims. It is intended for the guidance of the employees of the bureau.

(b) Information relating to Army and Navy Pensions. (3-1580.) This pamphlet sets forth the conditions entitling to pension, instructions in filing claims, evidence required to establish claim, tables of rates of pension and attorney's fees fixed by law.

(c) Compilation of the Laws of the United States Governing the Granting of Army and Navy Pensions. Compiled under the Direction of the Commissioner of Pensions and Published in Accordance with the Provisions of Section 4748, Revised Statutes. (3-1571.) Contains classified excerpts from the United States Statutes relating to pensions.

(d) Card Records in Use in the Bureau of Pensions. (3-1240.) Contains, as its name implies, a description of all the card records in use in the bureau.

The above publications are distributed free on request.

*Annual and other periodical publications.*—Commissioner's Annual Report. It contains a summary of the most important achievements of the bureau during the current fiscal year. It also contains tables of statistics regarding the applications filed, the pensioners on the roll, losses and gains to the roll, amount of payments to pensioners, costs of administration and the work of the bureau. It is distributed free on request.

*Correspondence.*—Requests for publications should be made to The Chief Clerk, Bureau of Pensions, Washington, D. C.

## PATENT OFFICE.

*Principal administrative officials.*—Commissioner of Patents; First Assistant Commissioner; Assistant Commissioner; Chief Clerk; Examiners in Chief; Law Examiners; Chiefs: Division of Finance, Division of Assignment, Division of Publications, Drafting Division, Division of Issue and Gazette, Division of Manuscript and Photolithographs, Division of Mails and Files, Librarian.<sup>1</sup>

Principal examiners, in charge of divisions: Acoustics, Horology, Records, etc.; Artesian and Oil Wells, Stone Working, etc.; Buckles, Buttons, Claps, and Sign Exhibiting; Builders' Hardware, Locks, Cutlery, etc.; Carriages and Wagons; Chemistry; Classification; Electricity, A; Electricity, B; Electricity C; Electric Railways and Signaling; Firearms, Ordnance, Marine and Aerial Navigation; Furniture; Harvesters, Music, and Bookbinding; Heating Apparatus; Hoisting and Handling Materials; Industrial Chemistry; Interferences; Internal-combustion Engines; Leather-working Machinery and Products; Machine Elements; Masonry, Bridges, and Fireproof Buildings; Metallurgy and Electric Heaters; Metal Working; Mills, Thrashing, Butchering, etc.; Optics, Toys, and Velocipedes; Paper Manufacture, Printing, and Type Bar Machines; Photography and Instruments of Precision; Plastics, Glass and Coating; Pumps and Hydraulic and Fluid Current Motors; Railway Draft Appliances, and Resilient Wheels and Tires; Railways and Railway Rolling Stock; Receptacles and Check-controlled Apparatus; Refrigeration, Heat Exchange, Packaging, and Dispensing Liquids; Sanitary Engineering and Surgery; Sewing Machines and Apparel; Sheet Metal and Wire Working, etc.; Steam Engineering; Textiles; Tillage; Tobacco, Presses, and Ventilation; Medicines; Trade-Marks and Designs; Typewriters, Fluid Burners, and Illumination; Washing, Brushing, and Abrading; Water Distribution; Woodworking.

*General information and duties.*—The Commissioner of Patents is charged with the administration of the patent laws, and supervision of all matters relating to the granting of letters patent for inventions, and registration of trade-marks. He is by statute made the tribunal of last resort in the Patent Office, and has appellate jurisdiction in the trial of interference cases, of the patentability of inventions, and of registration of trade-marks. Appeals lie from the Commissioner of Patents' decision to the United States Court of Appeals of the District of Columbia.

<sup>1</sup> Library contains 100,000 volumes.

**General Publications.**—The following is a list of the general publications issued, and price is given where not for free distribution: (a) Classification of Patents According to the Arts, 1917. Price, 25 cents.

(b) Manual of Classification, 1916. Includes a list of classes and subclasses by titles of invention, and is used as a reference book in making examinations with reference to particular inventions. Price, 25 cents.

(c) Definitions of Classification, January, 1912. Describes extent and indicates nature of inventions in classifications. Price, 50 cents.

(d) Patent Laws of the United States. Free.

(e) Rules of Practice, Patent Office. Includes forms of application for making patent, and schedule of fees. Free.

(f) Laws and Rules of Practice Concerning Registration of Trade-Marks. Includes forms and outlines of procedure. Free.

(g) Rules of Practice of the Patent Office for Registration of Prints and Labels under Certain Sections of the Copyright Act. Includes forms and outline of procedure registration. Free.

(h) List of Women Inventors, from 1790 to 1888. Price, 50 cents.

Appendix No. 1, from 1888 to 1892. Price, 25 cents.

Appendix No. 2, from 1892 to March 1, 1895. Price, 25 cents.

(i) Catalog Scientific Library, Patent Office, to 1878. Price, \$5.

Additions to Library, 1878 to 1883. Price, \$4.

Additions to Library, 1883 to 1888. Price, \$4.

(j) Manual of Classification of the German Patent Office (English). Price, \$1.

(k) Copies of Patents. Printed copies of the specifications and drawings of all patents issued and all trade-marks registered may be obtained from the Patent Office for 5 cents each.

**Method of distribution of general publications.**—All items to which a price is fixed, except copies of patents, are sold by the Superintendent of Documents, Government Printing Office. Copies of patents and all publications marked "free" are distributed by the Commissioner of Patents, Patent Office, Washington, D. C.

**Annual and other periodical publications.**—(a) Official Gazette of the Patent Office. This is issued once a week, and contains illustrations and claims of patents, reissues, and designs, and publications of trade-marks for which registration is asked. It is indexed and contains selected decisions by the Commissioner of Patents and United States Courts. Subscription price is \$5 per year; single copies 10 cents. Sold by Superintendent of Documents, Government Printing Office. Single copies may also be purchased from Commissioner of Patents.

(b) Trade-Mark Supplement. This includes material in reference to trade-marks appearing in the Official Gazette. It is sold by the Commissioner of Patents, Patent Office, at 5 cents per copy.

(c) Commissioner's Decisions. This is an annual publication, containing the Decisions of the Commissioner of Patents and of the United States Courts. It is compiled from the Official Gazette and is sold by the Superintendent of Documents, Government Printing Office, at \$1.

(d) Classification Bulletins. This is issued semiannually and continues the work covered by the Definitions of Classification. Since January, 1912, Bulletins 28 to 37 have been issued. Sold by Superintendent of Documents, Government Printing Office, at 10 cents each.

(e) Annual Report of the Commissioner of Patents. Issued in January and contains alphabetical list of patents, patentees, trade-marks, and labels and prints registered. Sent free to subscribers to the Official Gazette, but sold separately by Superintendent of Documents at \$1 each.

(f) Administrative Report of the Commissioner of Patents. Distributed free by the Commissioner of Patents, Patent Office, upon application.

**List of publications.**—A price list of publications of the Patent Office with schedule of fees of the office for the issuance of patents, trade-marks, etc., is available for free distribution by the Commissioner of Patents, Patent Office, Washington, D. C.

**Indexes.**—Indexes to patents have been issued as follows: (a) General Index of Patents, 1790 to 1873. Includes name of inventor, residence, date of patent, number, etc. Price, \$10.

(b) Index of Patents, 1790 to 1836. Photolithographed from Patent Office Records. Price, \$5.

(c) Index to Patents relating to Electricity. Patents granted by the United States prior to June 30, 1882. Price, \$5.

(d) Index to Patents to Electricity. Appendixes for each fiscal year, from June 30, 1882, to June 30, 1897. Price, \$1.50.

(e) Index to French Patents, 1790 to 1876. Translated, compiled, and published under the authority of the Commissioner of Patents. Price, \$10.

(f) Index to Italian Patents, 1845 to May 1, 1882. Translated, compiled, and published under authority of the Commissioner of Patents. Price, \$1.

*Mailing lists.*—The only mailing list maintained is one for the Official Gazette, which is sent to Members of Congress and libraries.

*Correspondence.*—Requests for all publications which are sold, *except Copies of Patents*, should be addressed to Superintendent of Documents, Government Printing Office, Washington, D. C., accompanied by price indicated. Requests for Copies of Patents, costing 5 cents each, and all publications for free distribution should be addressed to the Commissioner of Patents, Patent Office, Washington, D. C.

## BUREAU OF EDUCATION.

*Principal administrative officials and specialists.*—Commissioner of Education; Chief Clerk; Editor; Librarian;<sup>1</sup> Chiefs: Statistical Division, Maps and Files Division, Division of School Administration, Division of Higher Education, Division of Rural Education, Division of Foreign Educational Systems, Division of Vocational Education, Division of School and Home Gardening, Division of Immigrant Education, Kindergarten Division, Division of Negro Education, Division of Home Education, Division of School Hygiene, Division of Civic Education, Alaskan Division; Specialists in Rural Education; Specialist in Community Center Organization; Specialist in Commercial Education.

*General information and duties.*—The duties required of the Commissioner of Education by law are as follows: 1. To collect such statistics and facts as will show the condition and progress of education in the States, Territories, and possessions of the United States, and to give such information respecting the authorization and management of schools and school systems and methods of teaching as will aid the people of the United States in the establishment and maintenance of efficient school systems and otherwise promote the cause of education throughout the country.

2. To administer the schools provided by the United States Government for the natives of Alaska and the funds for the care of the health of these natives, to direct the reindeer industry and other industries for their education and support.

3. To supervise the expenditure of funds appropriated by the Federal Government for the support of colleges of agriculture and mechanic arts.

In the pursuance of the duties under 1, the Bureau of Education under the direction of the Commissioner of Education—

(a) Serves as a clearing house of information in regard to statistical and other facts pertaining to the condition and progress of education in the United States and other countries.

(b) Collects, digests, and reports the consensus of opinion in regard to principles and policies of education.

(c) Upon request, advises legislatures and city councils and State, county, and municipal boards of education and school officers and boards and other officers of individual schools in regard to educational policies. Frequently, to enable it to do this work, it makes surveys of State, county, and municipal school systems and of individual schools and colleges.

(d) Directs and assists in scientific investigations and experiments and for the discovery and tests of principles of education.

(e) Promotes and aids in promoting necessary and desirable tendencies in education, to the end that there may be full and equal opportunity for education for all.

*General publications.*—The general publications of the bureau are issued at irregular intervals in the form of bulletins, of which about 50 are issued each year. About 300 of these bulletins are available at present either through purchase from the Superintendent of Documents or (while the limited edition is available for free distribution) by the Commissioner of Education. They cover practically the entire field of educational discussion.

*Method of distribution of general publications.*—The bulletins, titles, and topics listed above are for sale by the Superintendent of Documents, Govern-

<sup>1</sup> Library contains 175,000 volumes.

ment Printing Office. A price list will be sent on application to the Commissioner of Education. A limited edition of the latest bulletins issued are available for free distribution by the Commissioner of Education, and when these are exhausted correspondents are referred to the Superintendent of Documents.

*Annual and other periodical publications.*—(a) Annual Report of the Commissioner of Education. This report is usually issued in two volumes and contains statistics relating to education in the United States, etc. A few of the reports and especially the last one are available for free distribution on application to the Commissioner of Education. Other Annual Reports, as far back as 1870, are for sale by the Superintendent of Documents, Government Printing Office, and price list will be sent on application.

(b) Monthly Record of Current Educational Publications. This is published as a Bulletin each month, and is mailed free to graduate students of education and others interested in school and college work. Recent copies are available for free distribution by the Commissioner of Education, and back numbers can be obtained from the Superintendent of Documents, at 5 cents per copy.

(c) Report on the Work of the Bureau of Education for the Natives of Alaska. This is issued as a Bulletin each year. Recent reports are for free distribution, and earlier reports can be purchased from the Superintendent of Documents at 10 to 25 cents per copy.

(d) Educational Directory. This is issued as a Bulletin each year and contains lists of the principal State school officers; executive officers of State boards of education; executive officers of State library commissions; county superintendents of schools; superintendents of public schools in cities; colleges and universities, giving presidents and heads of departments of education; presidents and deans of professional schools; summer school directors; librarians of public and society libraries; educational associations and periodicals, etc. For sale by Superintendent of Documents at 20 cents per copy.

(e) Series of Bulletins issued at irregular intervals on: (1) History of public-school education in different States. (2) History of higher education in the different States.

*List of publications.*—A list of publications is issued about twice a year, and is available for free distribution on application to the Commissioner of Education. The list contains about 600 Bulletins, Circulars, and Annual Reports for sale and for free distribution.

*Indexes to publications.*—The only indexes so far issued are: (a) Bulletin, 1909, No. 7, containing an index of the Reports of the Commissioner of Education from 1867 to 1907. For sale by the Superintendent of Documents at 10 cents per copy.

(b) In the series of bulletins entitled Monthly Record of Current Educational Publications an index is published each year, usually in June, containing an index of publications from February of the preceding year to January of the current year. For sale by the Superintendent of Documents at 5 cents per copy.

(c) Bibliographies of various subjects have been published in the series of Bulletins as follows: No. 26, 1912, Child study (free); No. 29, 1912, Mathematics teaching (10 cents); No. 16, 1913, Medical inspection (15 cents); No. 1, 1911, Science teaching (5 cents); No. 22, 1913, Industrial, vocational, and trade education (10 cents); No. 59, 1913, Education, 1910-11 (free); No. 32, 1914, Relation of secondary schools to higher education (free); No. 30, 1915, Education, 1911-12 (free).

*Correspondence.*—Requests for publications should be addressed: (1) For publications for sale, to the Superintendent of Documents, Government Printing Office, Washington, D. C.

(2) For publications available for free distribution, and for the list of publications, to the Commissioner of Education, Washington, D. C.

(3) With the exception of the schools for native children in Alaska, the Commissioner of Education has no jurisdiction over the schools in the Territories or outlying possessions. Correspondence in regard to these schools should be addressed as follows: Philippine Islands—Bureau of Insular Affairs, War Department, Washington, D. C.; Hawaii—Superintendent of Public Instruction, Honolulu, Hawaii; Porto Rico—Commissioner of Education, San Juan, Porto Rico; Canal Zone—Superintendent of Schools, Ancon, Canal Zone; White Schools in Alaska—The Governor of Alaska, Juneau, Alaska; Indians in the United States—The Commissioner of Indian Affairs, Washington, D. C.

## GEOLOGICAL SURVEY.

*Principal administrative officials and divisions.*—Director of the Geological Survey, Administrative Geologist, Chief Clerk. I. Geologic Branch: (A) Geology Division—Eastern Areal Geology, Western Areal Geology, Metalliferous Deposits, Nonmetalliferous Deposits, Iron and Steel Alloys, Coastal Plain Investigations, Western Coal, Eastern Coal, Oil and Gas, Glacial Geology, Paleontology and Stratigraphy; (B) Mineral Resources Division—Metallic Resources, Nonmetallic Resources; (C) Alaskan Mineral Resources Division; (D) Chemical and Physical Research Division—Chemistry Section, Physics Section. II. Topographic Branch: Atlantic Division, Central Division, Rocky Mountain Division, Northwestern Division, Pacific Division, Military Surveys Division. III. Water-Resources Branch: Surface Water Division, Water Utilization Division, Ground Water Division. IV. Land Classification Board; Coal Division, Phosphate Division, Metalliferous Division, Oil Division, Power Division, Irrigation Division. V. Administrative branch: Disbursing Office, Accounts Division, Executive Division, Library. VI. Publication Branch: Editor of Publications, Distribution of Documents, Chief Engraver.

*General information and duties.*—The Director of the Geological Survey is charged under the Secretary of the Interior with the geological survey and classification of the public lands and the examination of the geologic structure, mineral resources, and mineral products of the national domain.

In conformity with this authorization, the Geological Survey has been engaged in making a geologic map of the United States, involving both topographic and geologic surveys, in examining the country's mineral resources, in collecting annually the statistics of mineral production, and in conducting investigations relating to surface and underground waters.

*Publications.*—The publications of the survey consist of books and maps describing or depicting features of areas in the United States or in its possessions. The books consist of annual administrative reports and annual volumes of statistics of mineral production and publications issued at irregular intervals called: (a) Bulletins, (b) Professional Papers, (c) Water-Supply Papers, (d) Monographs, and (e) Geologic Folios.

These publications describe and discuss, by selected areas, the geography, geology, paleontology, ore deposits and other mineral resources, and the water resources of the United States and its possessions. They include, for example, papers on physiography, glaciology, petrography, mineralogy, topography as determined by spirit leveling, triangulation, primary traverse, profiles of rivers, sites available for the development of water power, records of the measurement of stream flow, reports on the quality of surface waters, underground waters, their occurrence and character.

The survey's annual publications are as follows: (a) Annual Report of the Director of the Survey to the Secretary of the Interior for the Fiscal Year.

(b) "Mineral Resources of the United States." Issued annually in two parts; gives statistics of mineral production by calendar year and contains notes on mineral resources. Advance chapters of this report, each showing the production of a separate mineral or group of minerals, or the production of certain minerals by selected geographic units, are published as rapidly as the statistics can be compiled.

(c) Bulletin, in two parts, entitled, Contributions to Economic Geology. Short papers and preliminary reports for the year. Part I. Metal and non-metals except fuels. Part II. Mineral fuels.

(d) Bulletin entitled, Mineral Resources of Alaska. Report on progress of investigations for the year.

(e) Professional Paper entitled, Shorter Contributions to General Geology (for the year).

(f) Water-supply Papers: (1) Contributions to hydrology for the year; (2) Surface water supply of United States for the year, usually printed in 12 parts.

All these publications are distributed free. The separate papers in these reports are issued as advance chapters as soon as possible after the papers have been prepared. They describe and discuss particular areas or deposits of special features, such as have already been indicated.

*Method of distribution of publications.*—The Bulletins, Professional Papers, Annual Reports, and the volume entitled "Mineral Resources" (published also in "advance chapters") are distributed free by the survey; the monographs are sold by the Superintendent of Documents, Government Printing Office, and

the Geologic Folios and topographic maps are sold by the survey at the cost of publication.

*List of publications.*—A complete list of all the publications of the Geological Survey, including those published for free distribution, those for sale, and those out of print, is available for free distribution by the survey, and is revised twice a year. The number of Annual Reports listed is 38; of Bulletins over 670; of Monographs over 50; of Professional Papers over 100; of Water-Supply Papers over 420.

*Indexes to publications.*—The survey's list of book publications contains finding lists of subjects and authors. The survey has issued three general indexes of its publications, as follows: (a) Bulletin 100 (1893); (b) Bulletin 177 (1901); (c) Bulletin 215 (1903), which, taken together, constitute an index of the survey's publications to 1913. Complete indexes to the survey's publications on Alaska and to the volumes of Mineral Resources are in preparation. Indexes of the Water-Supply Papers are published in Water-Supply Papers 119, 386, and 430.

*Mailing lists.*—The survey has no mailing list for all its publications but maintains in its library a distribution list of about 500 institutional libraries, from which publications are received by the survey. It has a mailing list of persons to whom monthly lists of new publications are sent.

*Atlas sheets.*—The United States Geological Survey has been engaged since its organization in making a topographic survey and atlas of the United States. The unit of survey is a quadrangle measuring 15', 30', or 1° each way, an area covering one-sixteenth, one-fourth, or one "square degree." The unit of publication is an atlas sheet 16½ by 20 inches, and each sheet is a topographic map covering one of the above-described areas. As the sheets are uniform in size, the larger the area covered the smaller the scale of the map. The scale of the full-degree map is 1:250,000, that of the 30' map is 1:125,000, and that of the 15' map is 1:62,500. Each map is designated by the name of some well-known place or feature appearing on it, and the names of published maps of adjoining quadrangles are printed on its margins. The maps are engraved on copper and printed from stone, in three colors. The cultural features, such as roads, railroads, cities, and towns, as well as the lettering, are in black; the water features are in blue; and the features of relief—hills, mountains, etc.—are shown by brown contour lines. The contour interval varies with the scale of the map and the relief of the country. Special maps with different outline scheme are also printed. The maps are sold at the rate of 10 cents a sheet of standard size. Index circulars showing available maps will be sent free of charge. Persons desiring index circulars should specify the State or States in which they are interested.

*State maps.*—Base maps of certain States have been printed. These maps, which are printed in black and white except as otherwise noted, have been prepared in connection with the work done on the great international map of the world and are published on a scale of 1:500,000, or approximately 8 miles to the inch. A few maps are printed on a scale of 16 miles to the inch. They show in accurate position all the principal cities, towns, villages, streams, and railroads and the main political subdivisions.

The following is a list of State maps sold by the Geological Survey: Alabama, Arkansas, Connecticut, Massachusetts and Rhode Island, Delaware, Delaware and Maryland, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, New Hampshire and Vermont, New Jersey, New Jersey and Pennsylvania, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

*United States maps.*—The following maps of the United States are issued and sold by the survey: Wall map, 49 by 76 inches; map, 18 by 28 inches; a relief of hypsometric map; base map, 11 by 16 inches, scale 190 miles to an inch; base map, 8½ by 12 inches, scale 260 miles to an inch.

*Map of North America.*—The survey has printed and has for sale a map of North America, 29 by 38 inches, scale 158 miles to an inch.

*Geologic maps.*—Geologic maps are contained in the folios of the Geologic Atlas of the United States and in other publications of the Geological Survey. A list of the folios and of the other publications may be obtained free of charge.

*International map of the world.*—The first three sheets of the North American Series of the International Map of the World have been published by the Geological Survey as follows: Boston Sheet (North K-19), includes most of New

England; San Francisco Bay Sheet (North J-10), part of California; Point Conception Sheet (North I-10), part of California.

Sheets of the international map have been published by other countries as follows: The Highlands (Scotland) sheet (North O-30); The Hebrides (Europe) sheet (North O-29); Constantinople (Europe) sheet (North K-35); Kenhardt (Africa) sheet (South H-34); Rome (Europe) sheet (North K-33); Budapest (Europe) sheet (North L-34); Alexandria (Africa) sheet (North H-35). These sheets can probably be obtained from Edward Stanford, map publisher, 12-14 Long Acre, W. C., London, England. Information in regard to the other sheets in progress can be obtained from Certain Bureau, International Map of the World, Building of the Ordnance Survey, Southampton, England. Sheets of this map of the world measure 24 by 25 inches; scale is 1:1,000,000, about 16 miles to the inch; 52 sheets to the United States.

*Correspondence.*—All correspondence should be addressed to the Director, United States Geological Survey, Washington, D. C.

## RECLAMATION SERVICE.

*Principal administrative officials.*—Director and Chief Engineer; Chief Counsel; Assistant Chief Counsel, Denver, Colo.; Counsel, Washington, D. C.; Consulting Engineer to the Secretary; Statistician; Chief of Construction, Denver, Colo.; Chief Clerk.

*General information and duties.*—The Director and Chief Engineer, the Chief of Construction, the Chief Counsel of the Reclamation Service, under the personal supervision and direction of the Secretary, are charged with the survey, construction, and operation of the Government irrigation works in the arid States authorized by the act of June 17, 1902, the reclamation act, and acts amendatory thereof. The States included in the operations of the service are North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, and the States west to the Pacific coast.

*Publications.*—The following general publications and special reports have been issued. (a) State Cooperative Reports of Oregon and California: California—Iron Canyon project, Pit River basin, lower Pit River project. Oregon—Deschutes project, Ochico and Crooked River project, Silver Lake project, John Day project, Rogue River Valley and Willamette Valley project, Malheur and Owyhee project, Harney and Silver Creek project, and Warner Valley and White River projects.

(b) Manual of the Reclamation Service. (Sold.) Contains the rules and regulations of the service covering engineering, legal, accounting, operation, and maintenance branches.

(c) Hydraulic and Excavation Tables. (Sold.) This is a handbook of tables used in the design of irrigation canals and structures, and includes tables of flow of water in open channels, through pipes, and over weirs, stadia tables, and other data.

(d) Tables for Reinforced Concrete. (Sold.) This handbook contains tables of bending moments, percentages of steel, spacing of steel bars and wire, bond of steel in concrete, material required for concrete, etc.

(e) Measurement of Irrigation Water. (Sold.) A handbook for ditch riders and canal superintendents, giving a description of weirs and tables to be used for computing flow of water in canals.

(f) Operation and Maintenance Use Book. (Sold.) A manual for the operation and maintenance branch of the service, describing organization, methods, reports, and forms used.

(g) Specimen Field Notes and Plats. (Free.) Pamphlet giving sample of survey field notes, town-site plats, and reservoir-site plats.

(h) Agricultural Pamphlets. (Free.) A series of six pamphlets discussing irrigation, capital required, prices, value, and profits from lands, stocking farms, profits from farm animals, and size of farms for most economical development.

(i) Settlement Pamphlets. (Free.) A series of pamphlets describing the 30 projects under construction and operation by the service.

(j) General Reclamation Circular—Laws. (Free.) Pamphlet containing the laws under which the service is operated, including the Reclamation Act, Reclamation Extension Act, and Irrigation District Act.

(k) Organization of Water Users Associations. (Free.) Pamphlet giving the form of organization of the project-settlers' associations.

(l) Standard Designs of Irrigation Structures. (Sold.) A series of 12 designs of structures as follows: Abutments (concrete bridge), Bridges (wood

and steel), Buildings (wooden, camp), Culverts (pipe and concrete), Drops (wooden, canal), Flumes (wooden, canal), Flumes (concrete, canal), Gates (cast-iron), Retaining walls (concrete), Spillways (concrete, canal), Turnouts (pipe and concrete box), and Weirs and orifices (wooden).

(m) Specifications and Plans. (Sold.) A series of over 300 specifications with plans used in the construction of the irrigation works, extra copies of which are for sale. A partial list is as follows: Balanced valves for dams, Bridges of all kinds, Canals (cross-section and profiles), Checks and chutes, Concrete structures (irrigation), Culverts of all kinds, Dams (earth and masonry), Dams (rolling crest), Drops (concrete, notched), Flumes (steel and concrete), Gates and valves (high-pressure), Gates (radial and tainter), Machinery (exc., cons., etc.), Movable crest for dams, Pipes (wood stave, concrete, and steel), Siphon spillways and siphons, Steel bars for reinforcement, Tunnels and tunnel lining, Turbines and water wheels, Wasteways and spillways.

(n) Standard Specifications. (Sold.) A series of standard specification paragraphs on general conditions, methods of construction, irrigation instructions, materials, cement, telephone lines, etc.

(o) Special Drawings, separate from specifications. (Sold.) A series of drawings of sluicing gates, analyses of the stresses in the high masonry and low diversion dams, types of cylinder valves, and types of movable dam crests.

*Method of distribution of general publications.*—The publications above listed are distributed free or sold by the Reclamation Service as indicated under each individual item.

*Annual and other periodical publications.*—(a) Annual Reports. The Annual Reports of the service describe the construction and operation of the various irrigation projects, and include statistical data on engineering crops and farm data. The ninth and fifteenth annual reports give a complete description of the construction from the beginning of work to the date of issue. The reports are distributed free by the Reclamation Service as long as copies are available. Also sold by Superintendent of Documents.

(b) Reclamation Record. The Record is the monthly bulletin of the service. It gives an account of the construction and operation of the projects and includes illustrated articles of interest to water users and irrigation engineers. Many of the articles are contributed by experts in the employ of the Government. The Record is sent free to all water users on the projects and to a selected list of libraries and individuals. To others the subscription price is 50 cents a year, payable in advance. Subscriptions should be sent to the Chief Clerk, United States Reclamation Service, Washington, D. C., and remittances (postal money order or New York draft) should be made payable to the Special Fiscal Agent, United States Reclamation Service. Postage stamps will not be accepted.

*List of publications.*—A list of publications free and for sale is issued and revised about once each year. This list also includes those publications issued by other departments of the Government containing reference to the engineering or agricultural work of the service.

*Indexes to publications.*—The only separate index printed is one of the first to tenth annual reports, which is available for free distribution. Indexes are included in all annual reports, the Manual, Use Book, and other publications and in bound volumes of the Reclamation Record.

Lists of engineering articles relating to the work of the Reclamation Service appearing in the technical journals are printed as separates and are indexed.

*Mailing lists.*—A mailing list for the Reclamation Record, limited as stated to water users and those subscribing, is maintained by the service.

*Maps.*—The maps issued comprise large and small project maps, showing topography and principal irrigation canals; special maps showing the special features of a project; town-site plats; and farm-unit plats.

These maps are all sold and are included in the list of publications issued. The list of projects is as follows: Arizona, Salt River project; Arizona-California, Yuma project; California, Orland project; Colorado, Grand Valley project, Uncompahgre Valley project; Idaho, Boise project, Minidoka project, King Hill project; Kansas, Garden City project; Montana, Blackfeet project, Flathead project, Fort Peck project, Huntley project, Milk River project, Sun River project; Montana-North Dakota, Lower Yellowstone project; Nebraska-Wyoming, North Platte project; Nevada, Truckee-Carson project; New Mexico, Carlsbad project, Hondo project; New Mexico-Texas, Rio Grande project; North Dakota, Williston project; Oregon, Umatilla project; Oregon-California,



Klamath project; South Dakota, Belle Fourche project; Utah, Strawberry Valley project; Washington, Okanogan project, Yakima project—Storage unit, Sunnyside unit, Tieton unit; Wyoming, Shoshone project.

Maps of preliminary surveys of projects in the West are issued.

*Correspondence.*—All requests for publications should be addressed to the Chief Clerk, United States Reclamation Service, Washington, D. C.

## BUREAU OF MINES.

*Principal administrative officials.*—Director; Chief Clerk; Chiefs of Divisions: Fuel and Mechanical Equipment, Pittsburgh, Pa., Metallurgical, Mineral Technology, Mining, Petroleum; Chiefs of Section: Legal, Mine Accidents Statistics, Government Coal Inspection, Publications, Editorial, Accounts, Library, Petroleum Technology.

*General information and duties.*—The Director of the Bureau of Mines is charged with the investigations of the methods of mining, especially in relation to the safety of miners and the appliances best adapted to prevent accidents, the possible improvement of conditions under which mining operations are carried on, the treatment of ores and other mineral substances, the use of explosives and electricity, the prevention of accidents, and other inquiries and technological investigations pertinent to such industries. He also has charge of tests and analyses of coals, lignites, ores, and other mineral fuel substances belonging to or for the use of the United States, has supervision over the mine inspector for Alaska, and is charged with the administration of the act for the regulation of explosives during the war.

*General publications.*—The Bureau of Mines publications contain the results of scientific and technologic investigations concerning mining, in the preparation, treatment, and utilization of mineral substances with a view to improving health conditions, and increasing safety, efficiency, economic development, and conserving resources through the prevention of waste in the mining, quarrying, metallurgical, and other mineral industries; investigations of explosives and peat; and on behalf of the Government the investigation of mineral fuels and unfinished mineral products belonging to or for the use of the United States, with a view to their most efficient mining, preparation, treatment, and use.

The bureau publishes three classes of reports: Bulletins, Technical Papers, and Miners' Circulars.

(a) The Bulletins present in detail the results of technical and scientific investigations in mining and metallurgical methods, and therefore are of interest chiefly to engineers, chemists, mine officials, and other persons familiar with the subjects discussed.

(b) The Technical Papers are shorter and less formal than the Bulletins and contain preliminary statements of the results of the larger investigations, or describe the shorter investigations incident to a larger one.

(c) The Miners' Circulars deal with topics relating to accident prevention and rescue and first-aid methods, the safeguarding of health and other matters that directly concern the workers in mines, mills, and metallurgical plants. These circulars are written in simple, nontechnical language, and are printed in much larger editions than are the Bulletins and Technical Papers.

*Method of distribution of general publications.*—A limited edition of each publication of the Bureau of Mines is printed for free distribution to residents of the United States and its possessions. Because of the demand within the United States and the limited supply, the bureau can not undertake to send its reports free to residents of foreign countries, except Canada, Mexico, Panama, and Cuba, in which countries the mailing frank of the United States Government is honored.

As the demand for many of the bureau's publications can not be met by the free editions printed under the appropriations made by Congress, and as the bureau's investigations have broadened so that no one person is likely to take an equal interest in all of them, applicants for publications are asked to cooperate in insuring an equitable distribution by applying for only those publications that are of especial interest. In asking for publications, the applicant should order them by number and title. Applications should be addressed to the Director of the Bureau of Mines, Washington, D. C.

As the editions of the bureau's publications are limited, they are frequently exhausted within a few weeks after issuance. When the editions are exhausted it is necessary for the applicants to apply to the Superintendent of Documents,

Government Printing Office, Washington, D. C., who maintains a supply that is sold at the cost of printing; or the reports may be consulted at public libraries throughout the country. No publications are sold by the Bureau of Mines, and no money for publications should be sent to it.

If the applicant is in doubt as to whether or not the publication is still available for free distribution, he may write to the Bureau of Mines and he will be notified promptly. In addition the Superintendent of Documents prints price lists of the mining publications, and these may be purchased from that official upon request. When purchasing publications through the Superintendent of Documents preparation of the price should be made in cash (exact amount) or by postal or express money order payable to the Superintendent of Documents.

Upon application a monthly postal card descriptive of the publications issued by the bureau is sent to all persons interested in mining and the mineral industries. In this way patrons of the bureau are kept informed as to the results of the investigations.

The Safety First Train, by J. L. Cochrane, 1917, 46 pp., illus., gives a description of the tour and exhibits of this train. Free distribution.

*Annual and other periodical publications.*—(a) The Bureau of Mines prints an Annual Report in a limited edition for free distribution as long as it lasts. This report is intended mainly as an administrative review of the work of the bureau and as such is not supposed to be of general interest to the mining public. (b) The bureau also publishes each month a statement of fatalities in coal mines which are distributed free to coal-mining officials and to mine operators. (c) Yearly statements of fatalities in coal and metal mines, quarries, metallurgical plants, and coke-oven plants are distributed in the same manner as the technical papers. (d) In addition the bureau issues various schedules of fees for testing explosives, mine lamps, and other mine apparatus. The schedules are of interest to manufacturers of explosives, mine lamps, coal-cutting machines, etc., and are of interest mainly to them. They are also distributed free to mining men who are directly interested.

*List of publications.*—The bureau issues a complete list of publications about four times a year, each time bringing the list up to date. This list is distributed free. The bureau also issues a monthly list of publications which is sent free to all persons who have requested that they be kept in touch with the bureau's work.

*Indexes to publications.*—An index is now in preparation and will be issued within the next few months. The edition will be for free distribution, but will be limited to those making specific requests for it.

*Mailing lists.*—The bureau does maintain a number of mailing lists for scientific libraries, mining schools, certain technical papers, mining and metallurgical associations, mine inspectors, assistant mine inspectors, etc. The technical press where directly interested in the bureau's publications exchanges its publications for those of the bureau.

A select list of coal miners and another of metal miners are on mailing lists to receive all of the circulars pertaining to safety. Coal operators and mining engineers are on another mailing list to receive the monthly statements of coal-mine fatalities.

It is not felt that it would be desirable to maintain mailing lists generally for individuals for the reason that the activities of the bureau cover so wide a range that no one person could possibly be interested in all of the various publications.

*Correspondence.*—Requests for publications should be addressed to Director of the Bureau of Mines, Washington, D. C.

## NATIONAL PARK SERVICE.

*Principal administrative officials.*—Director, Assistant Director, Chief Clerk

*General information and duties.*—The Director of National Parks is charged with the duty of administering the national parks, the national monuments under the jurisdiction of the Interior Department, and the Hot Springs Reservation in Arkansas, including the maintenance, improvement, and protection of the parks, monuments, and reservation, and the control of the concessioners operating the utilities therein for the care of visitors.

The following 17 national parks are under the supervision of the National Park Service: Crater Lake, Oreg.; General Grant, Cal.; Glacier, Mont.; Hawaii

Hawaii; Hot Springs Reservation, Ark.; Lassen Volcanic, Cal.; Mesa Verde, Colo.; Mount Rainier, Wash.; Platt, Okla.; Casa Grande Ruin, Ariz.; Rocky Mountain, Colo.; Sequoia, Cal.; Sullys Hill, N. Dak.; Wind Cave, S. Dak.; Yellowstone, Wyo., Mont., and Idaho; Yosemite, Cal.; Mount McKinley, Alaska.

The following 22 national monuments are under the supervision of the National Park Service: Devils Tower, Wyo.; Montezuma Castle, Ariz.; El Morro, N. Mex.; Chaco Canyon, N. Mex.; Shoshone Cavern, Wyo.; Natural Bridges, Utah; Gran Quivira, N. Mex.; Sitka, Alaska; Rainbow Bridge, Utah; Lewis and Clark Cavern, Mont.; Colorado, Colo.; Verendrye, N. Dak.; Muir Woods, Cal.; Pinnacles, Cal.; Tumacacori, Ariz.; Zion, Utah; Petrified Forest, Ariz.; Navajo, Ariz.; Papago Saguaro, Ariz.; Dinosaur, Utah; Sleur de Monts, Me.; and Capulin Mountain, N. Mex.

The following 11 national monuments are under the Department of Agriculture, and inserted here for convenience of reference: Gila Cliff Dwellings, N. Mex.; Jewel Cave, S. Dak.; Tonto, Ariz.; Wheeler, Colo.; Grand Canyon, Ariz.; Oregon Caves, Oreg.; Walnut Canyon, Ariz.; Devil Postpile, Cal.; Bandelier, N. Mex.; Mount Olympus, Wash.; Old Kasaan, Alaska.

The following two national monuments are under the jurisdiction of the War Department: Big Hole Battle Field, Mont.; Cabrillo, Cal.

*General publications.*—The following general publications have been issued, and are available for free distribution by the National Park Service or for sale by the Superintendent of Documents as indicated for each item:

(1) *All principal parks and monuments.*—Glimpses of our National Parks. 48 pp., illus. (Free.)

Appropriations, 1879-1918, for National Parks. 20 pp. (Free.)

Progress in Development of National Parks. 39 pp. (Free.)

National Parks Portfolio. 260 pp. 271 views. Paper, 35 cents; cloth, 55 cents.

National Park Conferences: Proceedings, First Conference, September, 1911.

210 pp. 15 cents. Proceedings, Second Conference, October, 1912. 146 pp. 15 cents.

Proceedings, Third Conference, March, 1915. 166 pp. 20 cents. Proceedings, Fourth Conference, January, 1917. 25 cents.

Guidebooks by United States Geological Survey:

(a) Guidebook of the Western United States, Part A, The Northern Pacific Route, with a side trip to Yellowstone Park, by M. R. Campbell and others. (Bulletin 611, U. S. Geological Survey.) 1915. 212 pages, 27 route maps, 27 plates, 39 text figures. 50 cents.

(b) Guidebook of the Western United States, Part B, The Overland Route, with a side trip to Yellowstone Park, by W. T. Lee, R. W. Stone, H. S. Gale, and others. (Bulletin 612, U. S. Geological Survey.) 1915. 244 pages, 29 route maps, 50 plates, 20 text figures. 50 cents.

(c) Guidebook of the Western United States, Part C, The Santa Fe Route, with a side trip to the Grand Canyon of the Colorado, by N. H. Darton and others. (Bulletin 613, U. S. Geological Survey.) 1915. 194 pages, 25 route maps, 42 plates, 40 text figures. 50 cents.

(d) Guidebook of the Western United States, Part D, The Shasta Route and Coast Line, by J. S. Diller and others. (Bulletin 614, U. S. Geological Survey.) 1915. 142 pages, 19 route maps, 33 plates, 15 text figures. 50 cents.

These guidebooks are sold by the Superintendent of Documents, Government Printing Office, at price enumerated above.

General information bulletins of each of the principal parks are issued each year as separates, and are for free distribution.

(1) *Crater Lake Park*, 40 illus.

(2) *Crater Lake National Park.*—Forests of Crater Lake Park. 40 pp. illus. 30 cents.

Geological History of Crater Lake. 32 pp. illus. 10 cents.

General Information. Annual Pamphlet. Free.

Guidebook, Bulletin 614, United States Geological Survey, Part D, 142 pp. illus. 50 cents.

Panoramic View of Crater Lake Park, 16½ by 18 inches. 25 cents.

(3) *General Grant National Park.*—Forests of Yosemite, Sequoia, and General Grant Parks. 40 pp. illus. 20 cents.

General Information. Pamphlet issued annually. Free.

The Secret of the Big Trees. 24 pp. illus. 5 cents.

(4) *Glacier National Park.*—General Information. Pamphlet issued annually. Free.

Glaciers of Glacier Park. 48 pp. illus. 15 cents.

Glacier National Park, a Guide. Bulletin 600, United States Geological Survey. 30 cents. Origin of the Scenic Features of the Park. 42 pp. illus. 15 cents. Panoramic View of Glacier Park. 18½ by 21 inches. 25 cents. Some Lakes of Glacier Park. 32 pp. illus. 10 cents.

(5) *Hot Springs Reservation*.—Analyses of the Waters of the Hot Springs and Geological Sketch. 56 pp. 10 cents.

General Information. Pamphlet issued annually. Free.

(6) *Mesa Verde National Park*.—Antiquities of the Mesa Verde Park. Bulletin 41, Bureau of Ethnology. 58 pp., plates and figures. 40 cents.

Antiquities of Mesa Verde Cliff Palace. Bulletin 51, Bureau of Ethnology, 82 pp., plates and figures. 45 cents.

Excavation and Repair of Sun Temple. 32 pp. illus. 15 cents.

General Information. Pamphlet issued annually. Free.

Panoramic View of Mesa Verde Park, 22½ by 19 inches. 25 cents.

Report on Ancient Ruins in Southwestern Colorado, 1875-76. Geologic and Geographic Survey Ter., Tenth Report, \$1.80.

(7) *Mount Rainier National Park*.—Features of Flora of Mount Rainier Park. 48 pp. illus. 25 cents.

Forests of Mount Rainier Park. 32 pp. illus. 20 cents.

General Information. Pamphlet issued annually. Free.

Mount Rainier and its Glaciers. 48 pp. illus. 15 cents.

Panoramic View of Mount Rainier Park. In ten colors, 19 by 20 inches. 25 cents.

(8) *Rocky Mountain National Park*.—General Information. Pamphlet issued annually. Free.

Geological History, or a Guide to Rocky Mountain Park. illus. 10 cents.

Panoramic View Rocky Mountain Park. In colors, 14 by 17 inches. 25 cents.

(9) *Sand Dunes of Indiana*.—Report on Proposed Sand Dunes National Park Indiana, 1917. Contains hearings. Chicago, October, 1916, 113 pp. Free.

(10) *Sieur de Monts National Monument*.—The Coastal Setting, Rocks and Woods. Includes papers on Coast of Maine, Geology and Woods of Mount Desert. Free.

The Sieur de Monts Monument, 1917, 4 pp. illus. Free.

Additional papers can be obtained from custodian, Bar Harbor, Me.

(11) *Sequoia National Park*.—Forests of Yosemite, Sequoia, and General Grant Parks. 20 cents.

General Information. Pamphlets issued annually. Free.

The Secret of the Big Trees (in parks). 24 pp. illus. 5 cents.

(12) *Yellowstone National Park*.—Fishes of the Yellowstone National Park Bureau of Fisheries. Document No. 818. 28 pp. illus. 5 cents.

Fossil Forests of Yellowstone Park. 32 pp. illus. 10 cents.

General Information. Separate pamphlet issued annually. Free.

Geological History of Yellowstone Park. 24 pp. illus. 10 cents.

Geysers, 1912. 32 pp. 23 illus. 10 cents.

Panoramic View of Yellowstone Park. In colors, 18 by 21. 25 cents.

Railroad Guidebooks, with Side Trips to Yellowstone Park. Bulletin 611 U. S. Geological Survey, Northern Pacific Route, 50 cents. Bulletin 611, U. S. Geological Survey, Overland Route, 50 cents. (Both over 200 pages each and include route maps and illustrations.)

(13) *Yosemite National Park*.—Forests of Yosemite, and Other Parks, 4 pp. illus. 20 cents.

General Information. Separate pamphlet issued annually. Free.

Panoramic View of Yosemite Park. Eight colors, 18 by 18 inches. 25 cents.

Sketch of Park and Origin of Yosemite and Hetch Hetchy Valley. 10 cents.

The Secret of the Big Trees, Yosemite, Sequoia, and General Grant Parks. Includes a statement of climatic conditions in California and Asia during a period of 3,400 years. 24 pp. 14 illus. 5 cents.

(14) *Casa Grande Ruin*.—General Information Circular. 31 pp. Free.

*Method of distribution of publications*.—The above publications are for sale by the Superintendent of Documents, Government Printing Office, Washington D. C., except where noted "Free," these publications being forwarded on application to the Director, National Park Service, Washington, D. C.

*Annual and other periodical publications*.—(a) Annual Report of the Superintendent of National Parks for the fiscal year which contains extracts of reports of park supervisors, but no descriptive matter. For free distribution.

(b) **General Information Circulars.** These are issued each season and contain information regarding hotels, camps, points of interest, sketch map, rules and regulations, and list of books and magazine articles. Free distribution. A separate pamphlet is published for each of the parks as follows: Crater Lake, Glacier, Hot Springs, Reservation, Mesa Verde, Mount Rainier, Rocky Mountain, Sequoia and General Grant, Wind Cave, Yellowstone, Yosemite, Casa Grande Ruin.

(c) **General Information Pamphlet** in regard to National Monuments Administered by the War Department, Department of Agriculture, and the National Park Service. 34 in all. For free distribution.

(d) **First Annual Report of the Service as Organized into a Separate Bureau.** Illustrated and with maps. 258 pp. A recent list of publications is included in this report to June 30, 1917. pp. 246-249.

**List of publications.**—Two lists of publications are issued as follows: (a) List of publications for sale by Superintendent of Documents.

(b) List of publications distributed free by National Park Service.

**Mailing lists.**—Mailing lists are kept of persons desiring to receive notices of national park publications as issued.

**Maps.**—Maps of the parks and monuments have been issued as follows: (a) Automobile guide maps, printed in two colors, for free distribution: Crater Lake Park, Oreg.; Glacier Park, Mont.; Mount Rainier Park, Wash.; Rocky Mountain Park, Colo.; Sequoia and General Grant National Parks, Cal.; Yellowstone Park, Montana, Idaho, and Wyoming; Yosemite Park, Cal.

(b) Map of the United States west of Chicago, printed in two colors, and showing all 17 National parks and 22 National monuments, administered by the National Parks Service, is available for free distribution.

(c) Maps of parks and monuments in U. S. Geological Survey topographic sheets as follows: Crater Lake National Park, Oreg.: Limiting parallels,  $42^{\circ} 48'$  and  $43^{\circ} 04'$ . Limiting meridians,  $122^{\circ}$  and  $122^{\circ} 16'$ . Size, 19 by 22 inches. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 50 feet. An illustrated description of the lake and the manner of its formation is given on the back of the sheet. Price, 10 cents retail or 6 cents wholesale.

Glacier National Park, Mont.: Limiting parallels,  $48^{\circ} 14' 36''$  and  $49^{\circ}$ . Limiting meridians,  $113^{\circ} 10'$  and  $114^{\circ} 30'$ . Size, 31 by 35 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents retail or 15 cents wholesale.

Mesa Verde National Park, Colo.: Limiting parallels,  $37^{\circ} 09' 18''$  and  $37^{\circ} 21'$ . Limiting meridians,  $108^{\circ} 15'$  and  $108^{\circ} 37' 30''$ . Size, 31 by 46 inches. Scale, 1:31,250, or about one-half mile to 1 inch. Contour interval, 25 feet. Price, 20 cents retail or 12 cents wholesale.

Mount Rainier National Park, Wash.: Limiting parallels,  $46^{\circ} 43' 43''$  and  $47^{\circ} 00'$ . Limiting meridians,  $121^{\circ} 30'$  and  $121^{\circ} 55'$ . Size, 22 by 23 inches. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 100 feet. Price, 10 cents retail or 6 cents wholesale.

Yellowstone National Park, Wyo.-Mont.-Idaho: Limiting parallels,  $44^{\circ} 08' 17''$  and  $45^{\circ} 01' 55''$ . Limiting meridians,  $110^{\circ}$  and  $111^{\circ} 05' 53''$ . Size, 32 by 36 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents retail or 15 cents wholesale.

Yosemite National Park, Cal.: The park limits established by acts of Congress are shown in colors. Limiting parallels,  $37^{\circ} 30'$  and  $38^{\circ} 15' 39''$ . Limiting meridians,  $119^{\circ}$  and  $120^{\circ}$ . Size, 29 by 31 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents retail or 15 cents wholesale. Also issued folded between covers; price, 40 cents retail or 24 cents wholesale. The Yosemite Valley is shown on a larger scale on the Yosemite Valley map. (See below.)

Some of the national parks and reservations are shown in whole or in part on the standard topographic maps, as indicated below.

Casa Grande Ruins, Ariz.: The northern part of this area is shown on the Sacaton map. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 50 feet. Price, 10 cents retail or 6 cents wholesale.

General Grant National Park, Cal.: Shown on the Tehipite map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 10 cents retail or 6 cents wholesale.

Hot Springs Reservation, Ark.: Shown on the map of Hot Springs and vicinity. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 20 feet. Price, 10 cents retail or 6 cents wholesale.

**Platt National Park, Okla.:** This park is at the town of Sulphur, Murray County, which is shown on the Stonewall map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 50 feet. Price, 10 cents retail or 6 cents wholesale.

**Rocky Mountain National Park, Colo.:** The greater portion of this park is shown on the Longs Peak map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 50 feet. Price, 10 cents retail or 6 cents wholesale.

**Sequoia National Park, Cal.:** Shown on the Kaweah and Tehipite maps. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price of each map, 10 cents retail or 6 cents wholesale.

**Wind Cave National Park, S. Dak.:** Shown on the Harney Peak and Hermosa maps. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price of each map, 10 cents retail or 6 cents wholesale.

**Yosemite Valley, Cal.:** Shown on the Yosemite Valley map. Limiting parallels,  $37^{\circ} 42'$  and  $37^{\circ} 47' 05''$ . Limiting meridians,  $119^{\circ} 30'$  and  $119^{\circ} 43' 40''$ . Scale, 1:24,000, or about  $2\frac{1}{4}$  inches to 1 mile. Contour interval, 50 feet. Price, 10 cents retail or 6 cents wholesale.

The maps are sold by the Director of the Geological Survey, Washington, D. C.

**Correspondence.**—For publications available for free distribution address, Director, National Park Service, Washington, D. C. For publications for sale, as indicated by price, address Superintendent of Documents, Government Printing Office, Washington, D. C.

Remittances should be by money order, payable to the Superintendent of Documents, Washington, D. C.

## SUPERINTENDENT OF THE CAPITOL BUILDING AND GROUNDS.

**Principal administrative officials.**—Superintendent, Chief Clerk, Chief Electrical Engineer, Accountant, Civil Engineer.

**General information and duties.**—By the act of April 16, 1862 (12 Stat., 617), the supervision of the Capitol extension and the erection of the new dome was transferred from the War Department to the Department of the Interior. By the act of March 30, 1867 (15 Stat., 13), it was provided that all improvements, alterations, and repairs of the Capitol should be made under direction of the architect of the Capitol, and should be paid for by the Secretary of the Interior. The act of August 15, 1876 (19 Stat., 147), conferred upon the architect "care and supervision" of the Capitol building, and provided that estimates therefor should be submitted through the Secretary of the Interior; also that the architect should perform all duties pertaining to the Capitol formerly performed by the Commissioner of Public Buildings. The act of February 14, 1902 (32 Stat., 20), changed the title of the architect to Superintendent of the Capitol Building and Grounds.

**Annual and other periodical publications.**—Annual Report of the Secretary of the Interior, distributed free. Works of Art in the United States Capitol Building, Including Biographies of the Artists, 1913.

## PART VIII.—DEPARTMENT OF AGRICULTURE.

(For location of department and bureaus, see page 190.)

*Principal administrative officials.*—Secretary of Agriculture, Assistant Secretaries (3), Assistants to the Secretary (3), Private Secretary to the Secretary of Agriculture, Chief Clerk, Assistant Chief Clerk and Captain of the Watch, Assistant in Charge of Supplies, Mechanical Superintendent, Appointment Clerk, Solicitor, Chief of Office of Farm Management, Assistant in Charge of Office of Inspection, Attorney in Charge of Forest Appeals, Special Agent on Exhibits, Division of Accounts and Disbursements: Chief of Division and Disbursing Clerk, Administrative Assistant, Cashier and Chief Clerk, Accountant and Bookkeeper, Supervising Auditor, Deputy Disbursing Clerk. Publication Work: Chief Editor in Charge of Editorial Office; Chief of Office of Information; Division of Publications—Chief, Assistant Chief in Charge of Printing, Chief Clerk, Assistants in Charge of Indexing, Illustrations, and Document Section.

*General information and duties.*—The Secretary of Agriculture is charged with the work of promoting agriculture in its broadest sense. He exercises general supervision and control over the affairs of the department and formulates and establishes the general policies to be pursued by its various branches and offices.

The Assistant Secretary of Agriculture becomes Acting Secretary in the absence of the Secretary and assists in the general supervision of the work of the department.

The Chief Clerk has general supervision of clerks and employees; of the order of business of the department and of records of the Secretary's office; and of expenditures from appropriations for miscellaneous expenses, rents, etc. He is responsible for the enforcement of the general regulations of the department and is custodian of buildings.

The Appointment Clerk prepares all papers connected with appointments, transfers, promotions, reductions, details, furloughs, and removals, and has charge of correspondence with the Civil Service Commission. He is custodian of oaths of office and personnel reports. He has the custody and use of the department seal.

The Solicitor is the legal adviser of the Secretary and the heads of the several branches of the department. He directs and supervises all law work of the department.

The Office of Exhibits handles the correspondence of the department relative to exhibits at fairs and expositions of various kinds; cooperates with several branches of the department in preparing exposition material; ships, installs, and cares for such exhibits; and investigates methods of displaying them.

The Office of Information is established to secure the widest possible circulation in popular form for the discoveries and recommendations of the scientists, specialists, and field workers of the department. It gives out to the public press agricultural facts taken from publications, official orders, and also from oral statements of specialists. Material so disseminated is set forth in such form as to attract public attention, be easily understandable, and lead to the adoption of the methods recommended. A weekly news letter is published. The office also prepares circulars, posters, and pamphlets designed to assist workers in carrying out educational and demonstration plans.

The Office of Forest Appeals investigates for the Secretary of Agriculture appeals from decisions of the Forest Service and reports its findings to the Secretary.

The Department Library contains 150,000 books and pamphlets, including an extensive collection on agriculture, a large and representative collection on the sciences related to agriculture, and a good collection of standard reference books. Periodicals currently received number 2,337. A dictionary catalogue is kept on cards, which number about 347,000. The librarian has charge of the foreign mailing lists, and domestic list of libraries.

The Division of Accounts and Disbursements has charge of the disbursements of public funds appropriated for the Department of Agriculture and the keeping of accounts and appropriate ledgers in connection therewith.

The work of the Editorial Office includes the consideration and critical examination of all manuscripts submitted for publication by the various bureaus, divisions, and offices of the department. In making criticisms and suggestions for the improvement of manuscripts, the chief editor is authorized to consult fully and freely with the chiefs of the bureaus, divisions, and offices, the authors of manuscripts, and any other officer or employee of the department.

The Division of Publications conducts all business of the department transacted with the Government Printing Office; has general supervision of all printing, including the indexing, illustration, binding, and distribution of publications, and the maintenance of mailing lists.

*Publishing bureaus.*—There are 13 publishing bureaus, divisions, and offices of the United States Department of Agriculture, and the results of their investigations are published as contributions to the departmental series of publications. Previous to July 1, 1913, each bureau had a series of bulletins and a series of circulars, and in addition to these the Secretary's Office issued bulletins, numbered reports, circulars, and annual reports. These bureau series were discontinued on the date mentioned, and in the paragraphs below the new classification of the publications of the Department of Agriculture is described.

## PUBLICATIONS.

*General publications.*—The publishing bureaus, divisions, and officers, with the subjects coming within their respective provinces upon which bulletins are prepared and contributed to the series to which they properly belong, are given under respective bureaus.

*Method of distribution of general publications.*—The publications of the United States Department of Agriculture are distributed free as long as the supply lasts. When copies are no longer available for that purpose, the publications may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the cost of printing and paper; some of them can be secured only by purchase. There are, however, certain publications such as Farmers' Bulletins, circulars of information, miscellaneous circulars, etc., of which reprints are frequently made, which are distributed free upon request made to the department.

*Annual, periodical, and other publications.*—A new classification of the publications of the Department of Agriculture was adopted July 1, 1913, as follows:

*Department bulletins.*—The popular matter heretofore published in the bulletins and circulars of the various bureaus, divisions, and offices is now published in the departmental series of bulletins which contain a popular discussion of the investigations of the department. A subseries of these bulletins, known as Professional Papers, is issued, which contain discussions of the work of a professional or semiprofessional nature, dealing with crops, animals, and similar matter, which, though sometimes handled in a popular way, may be presented in a professional or technical form. These are generally of octavo size, illustrated by plates or text figures or both, and are generally printed without cover, title page, table of contents, or index, and are issued in editions of 2,500 to several thousand, according to the subject, the nature of the demand, and the need for wide distribution of the information. Copies of these bulletins are distributed free to all who apply for them, as long as the supply lasts. When no copies are available, applicants are referred to the Superintendent of Documents, Government Printing Office, who has them for sale at a nominal price, in accordance with the provisions of law.

*Serial publications.*—This series comprises (a) the Journal of Agricultural Research, in which are included scientific and technical articles giving the results of investigations and scientific experiments by the department. The journal is published weekly, and is distributed free only to agricultural colleges, technical schools, experiment station libraries, State universities, Government depositories, and to such institutions as make suitable exchanges with the department. Further distribution is by purchase from the Superintendent of Documents, Government Printing Office, the subscription price being \$3 per year. The journal is royal octavo in size, and varies from 20 to 48 pages.

(b) The Experiment Station Record is published monthly and contains abstracts and comments on the scientific work bearing on agriculture issued by the



agricultural experiment stations and other institutions. It is distributed free to persons engaged in scientific investigations of agricultural subjects, libraries of experiment stations, agricultural colleges, and collaborators and cooperators with the department. Miscellaneous applicants may procure it by purchase from the Superintendent of Documents, the subscription price being \$1 per volume, two volumes being issued a year, or 15 cents per single copy.

(c) The Monthly Crop Report is issued according to law. It contains statistics with regard to condition, production, and yield of crops, and the production and value of farm animals. It is quarto in size, contains 8 to 12 pages, and is sent to all who are interested.

(d) The Weekly News Letter is a weekly publication, consisting of from 4 to 8 pages. It is published for the information of the employees of the department, and is sent to cooperators of the department. It can be purchased from the Superintendent of Documents, who has it for sale at 50 cents a year.

(e) The Monthly List of Publications is a full-page leaflet, issued after the first of each month. It contains a list by numbers and titles of the publications issued during the preceding month. It gives the title, author, and number of pages of each publication, and the price at which it may be obtained from the Superintendent of Documents after the department's supply is exhausted, together with a short sketch describing the character of the bulletin and the section of the country to which it is particularly applicable. It is sent free to all who apply for it.

(f) The Monthly Weather Review is a quarto-sized publication, consisting of 12 numbers to the volume, and is for sale by the Superintendent of Documents, the subscription price being \$2.50 a year.

*Congressional publications.*—These publications, required by law to be printed, comprise for the Department of Agriculture the following:

(a) The Annual Report of the Secretary, which is for free distribution as long as the supply lasts.

(b) Annual reports of the various bureaus, divisions, and offices, printed primarily for the information of Congress. The edition being small, there is little miscellaneous distribution.

(c) The Yearbook is an octavo publication and contains articles of the magazine type, describing some feature of the work of the department. It comprises from 600 to 800 pages; and the edition is 500,000 copies, of which 470,000 are for distribution by Senators, Representatives, and Delegates in Congress. Thirty thousand copies are allotted to the department, which are distributed principally to its correspondents and collaborators. The Yearbook is for sale by the Superintendent of Documents, at from \$0.75 to \$1 a copy, the price varying in different years.

(d) The Report on the Experiment Stations comprises a review of the work of the experiment stations. It is octavo in size and the number of pages varies from 300 to 500. The principal distribution is to the stations and libraries.

(e) Report on Field Operations of the Bureau of Soils is an octavo volume, comprising from 1,500 to 1,800 pages. It is made up of reports of soil surveys of different localities issued as soon as prepared, which are afterwards included in the full report. The full report is distributed only to libraries, although the advance sheets of these soil surveys are distributed free as long as the supply lasts, the department's edition being only 1,000 of each.

*Farmers' Bulletins:* This series consists of practical, concise, and specific information on matters relating to country life, the average size being 16 pages, although when occasion requires, the number of pages is increased or decreased. The subjects discussed in these bulletins are handled in such a way that the statements are practically in the nature of formulas, and they are prepared as far as possible to apply to specific sections of the country, and are designed to be of practical use to the reader. There is a special appropriation for printing these bulletins, four-fifths of all of the number printed being distributed upon the orders of Senators, Representatives and Delegates in Congress, leaving one-fifth for distribution by the department. The department distributes its allotment free as long as the supply lasts, but so great is the demand for them that it is impossible to meet it, with the result that it is often necessary to refer applicants to the Superintendent of Documents.

*Lists of publications.*—The United States Department of Agriculture issues regularly upon the last day in the month the Monthly List of Publications, containing a statement as to each of the documents issued by the department during that period. The Monthly List is mailed to all persons who may have

indicated a desire to receive such information, and this is the only publication of the department that is forwarded to such a list. There are small lists kept in the different bureaus and offices to which publications originating in those bureaus, and believed to be of special interest to the persons on these lists, are mailed. The department also from time to time prints a list of the Farmers' Bulletins available for distribution, and also a list of the publications issued since July 1, 1913, at which time the new series were established. These lists are forwarded to applicants upon request for information concerning what the department has available for distribution on various subjects. In addition to these lists, the Superintendent of Documents, Government Printing Office, Washington, D. C., issues a number of lists of the publications of the United States Department of Agriculture classified as to subjects, copies of which he will mail free to all applicants. These lists contain a statement as to title, author, pages, illustrations, prices, etc., and are revised from time to time so that the information conveyed by them may refer primarily to publications available for sale.

*Indexes to publications.*—Indexes are prepared for such publications as are of sufficient size to justify it. These include the Farmers' Bulletins, Yearbooks, Annual Reports, Periodicals, Service and Regulatory Announcements, etc. The indexes published separately comprise, therefore, the Farmers' Bulletins, the Yearbooks, Crop Report, Weekly News Letter, and Service and Regulatory Announcements. These indexes are, as a rule, issued in limited editions and are distributed principally to libraries and educational institutions and are not available for wide general distribution. In many cases they are not even available for sale, as they are out of print. As long as copies are available they can be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C.

*Mailing lists.*—There are a number of lists maintained by the department to which are mailed free certain publications, and in the aggregate the department's mailing list is very large, but, with the exception of the Crop Reporter and the Monthly List of Publications, the list to which any particular publication is mailed is very small.

*Maps.*—The United States Department of Agriculture does not issue any maps for distribution, preparing only outline maps for the use of its various offices and investigators and such as may be necessary for the illustration of particular volumes. No individual maps are either for free distribution or for sale.

*Correspondence.*—All correspondence regarding the publications of the Department of Agriculture other than those of the Weather Bureau should be addressed, if the documents are available for free distribution, to the Chief of the Division of Publications, and if for sale, to the Superintendent of Documents, Government Printing Office, Washington, D. C., to whom remittance should be made; no remittance of any kind should be made to the department, as it does not sell its documents, that province being reserved by law to the Superintendent of Documents. For Weather Bureau publications, requests should be addressed to the Chief of the Weather Bureau, if the publications are free, or to the Superintendent of Documents for those to which a price is affixed.

## OFFICE OF FARM MANAGEMENT.

*Principal administrative officials.*—Chief, Assistant Chief, and Assistant to the Chief.

*General information and duties.*—This office studies the details of farm practice. Its main object is to improve farm practice by introducing better business methods and by applying the principles of science wherever they are known. The types of farming prevailing in the various sections of the country are being studied in a number of localities, and a detailed study of farm economics and business principles is being made.

*General publications.*—Farm management bulletins have been issued on: Farm management survey; farm bookkeeping and accounts; farm organization in the Northeastern and Northern dairy region, Middle Atlantic region, Cotton belt, Great Plains region, and Pacific Coast and Rocky Mountain region; duty of farm machinery; economic study of the farm tractor; cost of producing dairy cattle, baby beef, and beef cattle; cost of apple production; cost of producing cotton; cost of growing sugar beets; cost of producing hay; cost of harvesting wheat; systems of tenant farming; lease contracts; food

furnished by the farm; farmer's income; labor distribution on the farm; and graphic summaries of American and the world's agriculture.

*Method of distribution of general publications.*—Publications can be obtained free as long as the supply lasts which is allotted to the Division of Publications, U. S. Department of Agriculture. When this supply is exhausted, bulletins can be purchased from the Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—The Annual Report of the chief of the office gives an account of the work conducted by this office. Distributed free as long as the supply lasts.

*List of publications.*—The office prepares a mimeographed list of its publications which is distributed only upon request. No monthly list is issued, because all bulletins are listed in the Monthly List of Publications issued by the Division of Publications of the Department of Agriculture.

*Indexes to publications.*—There are no indexes covering only Farm Management Bulletins. Farm Management Bulletins are included in the indexes to Farmers' Bulletins and Department Bulletins of the Department of Agriculture.

*Correspondence.*—All requests for bulletins should be addressed to Chief, Division of Publications, U. S. Department of Agriculture, Washington, D. C.

## WEATHER BUREAU.

*Principal administrative officials.*—Chief; Assistant Chief; Chief Clerk; Chiefs of Divisions: Forecast, River and Flood, Agricultural Meteorology, Climatological, Instruments, Telegraph, Printing, Supplies, Stations and Accounts; Library, Office of Editor; In charge of Solar Radiation Investigations, Seismological Investigations, Aerological Investigations; In charge of forecast districts—Chicago, Ill., New Orleans, La., Denver, Colo., San Francisco, Cal., Portland, Oreg.

*General information and duties.*—The Weather Bureau has charge of the forecasting of the weather; the issue and display of weather forecasts, and storm, cold-wave, frost, and flood warnings; the gauging and reporting of river stages; the maintenance and operation of the United States Weather Bureau telegraph and telephone lines; the collection and transmission of marine intelligence for the benefit of commerce and navigation; the reporting of temperature and rainfall conditions for agricultural interests; the taking of such meteorological observations as may be necessary to determine and record the climatic conditions of the United States; and researches in aerology, solar radiation, seismology, volcanology, and kindred subjects.

*General publications.*—The publications of the Weather Bureau deal principally with theoretical and applied meteorology, including agricultural aerological, dynamic and marine meteorology, climatology, phenology, weather and weather forecasts, rivers and floods, seismology, meteorological bibliography, and related subjects.

*Method of distribution of general publications.*—The daily weather maps and forecast cards, the weather and crop bulletins, and the snow and ice bulletins are distributed free by the Bureau wherever they are intended to be used for the public benefit; these and other periodical publications are also furnished free to educational and scientific institutions, libraries, and to contributing and cooperative individuals or associations. In all other cases these publications are sold through the Superintendent of Documents, except small pamphlets and leaflets intended principally for educational purposes, which are furnished free on application to the chief of bureau.

*Periodical and miscellaneous publications.*—The Annual Report of the Chief of the Weather Bureau consists of four parts: Part I, Administrative report; Part II, General summary of weather conditions; Parts III and IV, Climatology. This is a congressional document and may usually be obtained by applying to Members of Congress.

Annual Report on River Stages at River-gauge Stations on the Principal Rivers of the United States. In addition to the daily gauge readings at numerous river stations, this report contains a summary of the principal floods that occurred during the year.

Monthly Weather Review contains contributions from the research staff of the Weather Bureau and special contributions of a general character in any branch of meteorology and climatology, also climatological data for Weather Bureau stations. The contents are classified into seven sections: Section 1.

**Aerology.** Section 2. General meteorology. Section 3. Forecasts and general conditions of the atmosphere. Section 4. Rivers and floods. Section 5. Seismology. Section 6. Bibliography. Section 7. Weather of the month, with nine charts.

**Monthly Weather Review Supplement.** These supplements are issued at irregular intervals in place of the series of lettered and numbered bulletins formerly published. They comprise those more voluminous studies that form permanent contributions to the science of meteorology, and important communications relating to weather forecasting and other activities of the bureau.

**Climatological Data for the United States by Sections.** Issued for each month and for the year. Each number contains the data for every State, with two charts illustrating the temperature and precipitation for the month. The data for each State or section are, as a rule, printed at the section center, and then assembled and bound into the complete number at Washington.

**National Weather and Crop Bulletin** is issued weekly from April to October, inclusive, and monthly during the remainder of the year. It contains charts, tables, and text showing the rainfall and temperature, with departures from normal, together with text of the effect of the weather upon crops and farm operations. These are itemized by States, and summarized for the country as a whole. It also contains occasional special articles showing the results of studies to determine the critical period of development of crops and the weather having the greatest influence upon the yield.

**Snow and Ice Bulletin.** One sheet with chart and text is issued weekly during the winter. Shaded portions on the chart represent areas covered with snow, and lines indicate equal depths of snow in inches. The text gives a general summary of the weather, snow, and ice conditions during the week, and the table the depth of snow and the thickness of the ice in rivers and harbors at selected points in the United States.

**Daily Weather Map** is issued at Washington and, in modified forms, at a large number of Weather Bureau stations throughout the country. These maps show graphically and by means of tables the prevailing weather conditions at 8 a. m., seventy-fifth meridian time, and give the forecasts for the next 24 or 36 hours.

**Instrument Division Circulars** are issued at irregular intervals as needed. These contain detailed descriptions of meteorological instruments and apparatus used by the bureau, with instructions for their use, management, and care.

Miscellaneous pamphlets, leaflets, charts, etc., intended mainly for educational purposes, are issued at irregular intervals as needed.

*List of publications.*—A list of publications is distributed free of charge.

*Indexes to publications.*—No general indexes are issued other than those contained in individual publications or volumes. A list of serial numbers of Weather Bureau publications beginning with January, 1895, appeared in the Monthly Weather Review for July, 1915, reprints of which are available for general distribution.

*Mailing lists.*—Mailing lists are maintained for all periodical publications of the bureau.

*Maps.*—In addition to the daily weather maps and the charts issued with other periodical publications, the Weather Bureau issues various climatological charts showing normals and extremes of temperature, precipitation, relative humidity, etc., and a chart of cloud forms with descriptive text.

*Correspondence.*—All correspondence should be addressed to the Chief, United States Weather Bureau, Washington, D. C.

## BUREAU OF ANIMAL INDUSTRY.

*Principal administrative officials.*—Chief; Assistant Chief; Chief Clerk; Chiefs of Divisions: Animal Husbandry, Biochemic, Dairy, Field Inspection, Meat Inspection, Tick Eradication, Tuberculosis Eradication, Miscellaneous, Pathological, Quarantine, Zoology; Editor, Superintendent of Experiment Station.

*General information and duties.*—The Bureau of Animal Industry has charge of the work of the department relating to the live-stock industry. In general it deals with the investigation, control, and eradication of diseases of animals the inspection and quarantine of live stock, the inspection of meat and meat food products, and with animal husbandry and dairying.

*General publications.*—The Bureau of Animal Industry prepares publications relating to the eradication and control of animal diseases; inspection and quarantine of imported and exported live stock; eradication of cattle ticks and hog cholera; live-stock demonstration in areas freed from cattle ticks; dairy investigations; animal-husbandry investigations; control of the manufacture, importation, and shipment of viruses, serums, etc., and the control of meat and meat food products.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88-90.

## BUREAU OF PLANT INDUSTRY.

*Principal administrative officials.*—Physiologist and Pathologist and Chief of Bureau; Physiologist and Associate Chief of Bureau; Chief Clerk; Publications; Accounts. In charge of—Agricultural Technology; Alkali and Drought Resistant Plant Investigations; Arlington Experimental Farm; Biophysical Investigations; Cereal Investigations; Congressional Seed Distribution; Corn Investigations; Crop Acclimatization and Fiber-plant Investigations; Crop Physiology and Breeding Investigations; Demonstrations on Reclamation Projects; Drug-plant, Poisonous-plant, Physiological and Fermentation Investigations; Dry-land Agricultural Investigations; Economic and Systematic Botany; Experimental Gardens and Grounds; Forage-crop Investigations; Foreign Seed and Plant Introduction; Pomological Investigations; Horticultural Investigations; Paper-plant Investigations; Pathological Investigations; Laboratory of Plant Pathology; Pathological Collections; Investigations in Forest Pathology; Fruit-disease Investigations; Cotton, Truck, and Forage-crop Disease Investigations; Seed-testing Laboratories; Soil-bacteriology and Plant-nutrition Investigations; Soil-fertility Investigations; Sugar-plant Investigations; Tobacco Investigations; Western Irrigation Agriculture.

*General information and duties.*—The Bureau of Plant Industry studies plant life in all its relations to agriculture. The scientific work of the bureau is divided into 31 distinct groups, over each of which is placed a scientifically trained officer, who reports directly to the chief and associate chief of the bureau. The work of the bureau is conducted on the project plan, the investigations under each of the offices being arranged by group projects consisting of closely related lines of work, which group projects are further divided into projects.

*General publications.*—The Bureau of Plant Industry prepares publications relating to plant life, including farm crops, fruits, vegetables, and forage crops; fruit-disease investigations, forest pathology investigations; cotton, truck, and forage-crop disease investigations; crop physiology and breeding investigations; soil-bacteriology investigations; plant-nutrition investigations; soil-fertility investigations; crop-acclimatization investigations; drug-plant, poisonous-plant, physiological, and fermentation investigations; agricultural technology investigations; fiber-plant investigations; seed-testing investigations; cereal investigations; corn investigations; tobacco investigations; paper-plant investigations; alkali and drought-resistant plant investigations; sugar-plant investigations; sugar-cane sirup production; investigations in economic and systematic botany; dry-land agriculture investigations; western irrigation agriculture investigations; pomological investigations; horticultural investigations; forage-crop investigations; seed-distribution work, and agricultural demonstration on reclamation projects.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88-90.

## FOREST SERVICE.

*Principal administrative officials.*—Forester and Chief; Associate Forester; Editor; Dendrologist; Chief of Accounts; Chief Engineer; Assistant Forester; In charge of—Operation, Silviculture, Grazing, Lands, Research, Acquisition of Lands for the Protection of the Watersheds of Navigable Streams; In charge of National Forest Districts—Missoula, Mont., Denver, Colo., Albuquerque, N. Mex., Ogden, Utah, San Francisco, Cal., Portland, Oreg., Washington, D. C.

**General information and duties.**—The Forest Service administers the national forests; studies forest conditions and methods of forest utilization; investigates the mechanical and physical properties of woods and the processes employed in the manufacture of forest products; and gathers information concerning the needs of the various wood-using industries and the relation of forests to the public welfare generally.

**General publications.**—The Forest Service prepares publications on forest conditions and methods of forest utilization; on the mechanical and physical properties of woods; processes employed in the manufacture of forest products; on the needs of various wood-using industries; the relation of the forest to the public welfare; fire suppression; methods of reforestation; silvicultural investigations; methods of improving national forests; grazing in the national forests, and the opening of lands in the national forests to agricultural settlement.

**Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.**—See Department publications, pages 88-90.

## BUREAU OF CHEMISTRY.

**Principal administrative officials.**—Chief; Assistant Chief; Chief Clerk; Editor; Librarian; In Charge of State Cooperative Food and Drug Control; Chief of Eastern Food and Drug Inspection District; Office of Medical Expert; Miscellaneous Division; In charge of laboratories: Animal Physiological Chemical, Carbohydrate, Color Investigation, Drug Control, Food Control, Food Investigation, Fruit and Vegetable Utilization, Leather and Paper, Microbiological, Nitrogen, Organic Investigation, Pharmacognosy, Pharmacological, Phytochemical, Plantchemical; In charge of Food and Drug Inspection Districts—Washington, D. C., Chicago, Ill., and San Francisco, Cal.

**General information and duties.**—The Bureau of Chemistry is concerned with analytical work and investigations under the Food and Drugs Act, questions of agricultural chemistry of public interest, and other chemical investigations referred to it by the Government.

**General publications.**—The Bureau of Chemistry prepares publications on questions of agricultural chemistry, such as the chemistry of plant growth; the influence of environment on the composition of crops; studies concerning mill products; studies in bread making; the use of yeast and other aids in baking; the use of substitutes for flour in baking; leather and tanning investigations; paper investigations; investigations of woods and wood products; investigations of rosin and turpentine; waterproofing and mildewproofing of fabrics; carbohydrate investigations; insecticide and fungicide investigations; fruit and vegetable utilization investigations; cattle food and grain investigations; cereal dusts in relation to thrasher, mill, and elevator explosions; investigations of distinctive paper; poultry and egg investigations; fish and shellfish investigations; food and drug products in connection with the enforcement of the Food and Drugs Act, and on the grading and handling of naval stores.

**Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.**—See Department publications, pages 88-90.

## BUREAU OF SOILS.

**Principal administrative officials.**—Soil Physicist and Chief; Chief Clerk; Editor; Chiefs of Division: Chemical Investigations, Physical Investigations, Investigations of Fertilizer Resources, Soil Survey.

**General information and duties.**—The Bureau of Soils investigates the relation of soils to climate and organic life; studies the texture and composition of soils in field and laboratory; maps the soils; studies the cause and means of preventing the rise of alkali in the soils of irrigated districts and the relations of soils to seepage and drainage conditions.

**General publications.**—The Bureau of Soils prepares publications on the relations of soils to climate and organic life; soil chemical investigations; soil physical investigations; investigations of the fertilizer resources of the United States; and the results of soil surveys made in the different States.

**Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.**—See Department publications, pages 88-90.

## BUREAU OF ENTOMOLOGY.

*Principal administrative officials.*—Entomologist and Chief; Entomologist and Assistant Chief; Chief Clerk and Executive Assistant; Editor; Librarian; In charge of—Truck Crop Insect Investigations, Stored Product Insect Investigations, Forest Insect Investigations, Southern Field Crop Insect Investigations, Cereal and Forage Insect Investigations, Deciduous Fruit Insect Investigations, Miscellaneous Insect Investigations, Bee Culture, Preventing Spread of Moths.

*General information and duties.*—The Bureau of Entomology studies insects; experiments with the introduction of beneficial insects; makes tests with insecticides and insecticide machinery; and identifies insects sent in by inquirers.

*General publications.*—The Bureau of Entomology prepares publications relating to the eradication and control of insects; the introduction of beneficial insects; bee culture; the control of subtropical insects, and the prevention of their importation into the United States; insects affecting the health of man; insects affecting the health of animals; the gipsy moth and brown-tail moth in the United States, and the methods adopted for their control.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88–90.

## BUREAU OF BIOLOGICAL SURVEY.

*Principal administrative officials.*—Biologist and Chief; Assistant Chief; Expert in Game Conservation; Administrative Assistant; Chief Clerk and Executive Assistant; Clerk in charge of Editorial Work; In charge of—Economic Investigations, Biological Investigations, Interstate Commerce in Game, Mammal and Bird Reservations, Federal Migratory Bird Law.

*General information and duties.*—The Bureau of Biological Survey has charge of the work of the department relating to the control and conservation of wild birds and mammals and the investigation of their relation to agriculture. It studies their food habits and investigates methods of protecting beneficial species and controlling harmful ones; experiments in fur farming; controls noxious mammals in national forests and other public domain; makes biological surveys of areas, studies the geographic distribution of wild animals and plants, and maps natural life zones; supervises national mammal and bird reservations; administers Federal laws relating to interstate commerce in birds and game; regulates the importation of foreign birds and mammals; administers the Federal migratory-bird law.

*General publications.*—The Bureau of Biological Survey prepares information on game preservation; the establishment and maintenance of mammal and bird reservations; the importation of foreign birds and mammals; the game laws of the United States; destruction of predatory animals in the national forests and on the public domain; the relation of native and introduced mammals to agriculture; the relation of native and introduced birds to agriculture; the rearing of fur-bearing animals; bird migration; biological surveys of the States and Territories; and the methods followed in the enforcement of migratory-bird laws.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88–90.

## BUREAU OF CROP ESTIMATES.

(Formerly Statistics.)

*Principal administrative officials.*—Chief; Assistant Chief; Chief Clerk; Chiefs of Division: Crop Reports, Field Service, Crop Records; Statistical Scientists.

*General information and duties.*—The Bureau of Crop Estimates collects crop data; issues the monthly crop reports of the department; prepares the statistical portion of the Yearbook of the Department of Agriculture; and makes special investigations relating to agricultural forecasts and estimates for publication or in response to special inquiries.

*Publications.*—The Bureau of Crop Estimates prepares publications relating to the production and value of the principal farm crops; the number and value of farm animals, and the importation and exportation of agricultural products.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publication pages, 88-90.

## STATES RELATIONS SERVICE.

*Principal administrative officials.*—Director; Administrative Assistant; Chief Clerk; Chief Accountant; Librarian; Chief of Editorial Division; Chief Specialist in Agricultural Education; Farmers' Institute Specialist; Chiefs: Office of Experiment Stations, Division of Insular Stations, Office of Extension Work in the South, Office of Extension Work in the North and West, Office of Home Economics; In charge of—Alaska Experiment Stations, Hawaii Experiment Station, Porto Rico Experiment Station, Guam Experiment Station.

*General information and duties.*—The States Relations Service represents the Secretary of Agriculture in his relations with the State agricultural colleges and experiment stations, under the acts of Congress granting funds to these institutions for agricultural experiment stations and cooperative extension work in agriculture and home economics, and in carrying out the provisions of acts of Congress making appropriations to this department for farmers' cooperative demonstration work, investigations relating to agricultural schools, farmers' institutes, and home economics, and the maintenance of agricultural experiment stations in Alaska, Hawaii, Porto Rico, and Guam.

*General publications.*—The States Relations Service prepares publications relating to the agricultural colleges and experiment stations in the United States and their relation to the National Government; reports and bulletins of the insular experiment stations; reports of the farmers' cooperative demonstrations in the Southern States; reports of the farmers' cooperative demonstrations in the Northern and Western States; farmers' institutes and agricultural schools, and on home economics.

*Distribution, reports, lists, indexes, mailing lists, maps and correspondence.*—See Department publications, pages 88-90.

## BUREAU OF PUBLIC ROADS.

*Principal administrative officials.*—Director, Chief Engineer, Chief of Management, Assistant Chief Engineer, Assistant Engineer, General Inspectors, Editor, Chief Clerk, Chief of Irrigation Investigations, Chief of Drainage Investigations, Chemical Engineer, Chief of Rural Engineering, Bridge Engineer, Engineer of Tests, Chemist, Chief of Road Maintenance, Chief of National Park and Forest Roads, Assistant in Road Economics, Associate Mechanical Engineer, Irrigation Economist, Senior Drainage Engineer, Petrographer, Librarian.

*General information and duties.*—The Bureau of Public Roads investigates systems of road management and methods of road construction and maintenance; details engineers to instruct local officials in road building through supervising object-lesson roads; gives advice to State and county authorities on all matters relating to road construction, maintenance, and management; investigates the location, properties, and economic value of road materials; constructs experimental roads to demonstrate and test methods and materials of construction; investigates the effect of various kinds of traffic on road surfaces; studies traffic regulations; compiles statistics relating to public roads; conducts educational work through lectures, the distribution of lantern slides, and the exhibit of models; cooperates with the Forest Service on road work conducted with the proceeds of the 10 per cent appropriation from forest receipts; has charge of the survey, construction, and maintenance of roads in and adjacent to the national forests for which appropriation is made under section 8 of the Federal-aid Road Act; administers, under instructions from the Secretary of Agriculture, the operation of the Federal-aid Road Act under which aid is rendered to the several States in the construction of rural post roads; investigates and reports concerning the best methods of utilization of water in farm irrigation and concerning the development of the most efficient equipment for farm irrigation; studies the duty, apportionment, and measurement of irrigation water, and the customs, regulations, and laws affecting irrigation; gives advice and assistance in farm irrigation; investigates and reports upon the drainage of farm and of swamp and other wet



lands otherwise suitable for agriculture; conducts field experiments and makes investigations in regard to construction and equipment in farm-drainage systems; gives advice and assistance in farm drainage; investigates the domestic water supply and drainage disposal of the farm; investigates and gives advice on the construction of farm buildings, on farm machinery, and on other rural-engineering problems.

*General publications.*—The Bureau of Public Roads prepares bulletins on road management; methods of road-building; improvement and maintenance of roads; road materials; bridge-building; farm-irrigation investigations; farm-drainage investigations; rural engineering, and on the administration of the Federal-aid Road Act.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88-90.

## BUREAU OF MARKETS.

*Principal administrative officials.*—Chief; Chief Clerk; In charge of—Cotton Handling and Marketing, Cooperative Purchasing and Marketing, Market Surveys, Methods, and Costs, Market Grades and Standards, City Marketing and Distribution, Transportation and Storage, Marketing Direct Activities, Marketing Live Stock, Meats and Animal By-products, Market Business Practice, Grain and Hay Marketing Investigations, Seed Marketing Investigations, Marketing Cotton Seed and Its Products, Marketing Dairy Products, Cotton Warehousing Investigations, Investigation and Demonstration of Cotton Standards and Cotton Testing, Rural Organization, Enforcement of the Cotton Futures Act; Foreign Marketing Investigations, Preservation of Fruits and Vegetables in Transit and Storage, Market News Service on Fruits and Vegetables, Market News Service on Live Stock and Meats, Market News Service on Dairy and Poultry Products, Market News Service on Grain, Hay, Feeds and Seeds, Food and Fertilizer Surveys, Food Supply Investigations, Investigation and Demonstration of Cotton Standards and Cotton Testing, Rural Organization, State Cooperation in Marketing Work, Grain Standardization, Enforcement of the Standard-Container Act, Enforcement of the Cotton-Futures Act, Enforcement of the Grain-Standards Act, Administration of the Warehouse Act.

*General information and duties.*—The studies of the Bureau of Markets cover such subjects as: Market conditions; demands for specific crops; sources of supply; methods of grading, standardizing, packing, and shipping farm products; the nature of the commercial transactions by means of which farm products move from the farm to the consumer; waste in marketing; methods of accounting and business practice for marketing agencies; profits in handling farm products with means for the reduction of those which are excessive; and cooperative associations of farmers for handling rural problems. Under regular appropriations, market news services are conducted for certain fruits and vegetables and live stock and meats. With the war emergency funds, this work has been greatly extended. Under the emergency fund, market reports are issued on dairy products, and on grain, seeds, and hay, and an inspection service, to determine the condition as to soundness of fruits and vegetables and other food products, has been inaugurated. The regulatory work conducted by the Bureau of Markets consists in the enforcement of the United States Cotton-Futures Act, the United States Grain-Standards Act, and the United States Standard-Container Act. The bureau also is charged with the administration of the Warehouse Act.

*General publications.*—The Bureau of Markets prepares bulletins on marketing and the distribution of agricultural products, including cotton handling and marketing; market surveys, methods, and costs; cooperative purchasing and marketing; market grades and standards; city marketing and distribution; transportation and storage of farm crops; marketing by parcel post and express; marketing live stock, meats, and animal by-products; marketing grain, hay, and seeds; marketing cotton seed and its products; marketing dairy products; cotton warehousing investigations; general business practice in marketing; on the collecting and distributing of market information; reports on marketing live stock and meats; on investigations and demonstrations of cotton standards and cotton testing; on rural credit, insurance, and communication; on rural social and educational activities; cooperation in marketing work between the United States and the different States; on extension and demonstration work in marketing and distribution in rural organization; re-

ports on the enforcement of the United States Cotton Futures Act; on the United States Warehouse Act; on the enforcement of the United States Grain-Standards Act; and enforcement of the Standard-Container Act.

*Distribution, reports, lists, indexes, mailing lists, maps, and correspondence.*—See Department publications, pages 88-90.

## INSECTICIDE AND FUNGICIDE BOARD.

*Principal administrative officials.*—Chairman; Executive Officer.

*General information and duties.*—The Insecticide and Fungicide Board, created December 22, 1910, assists the Secretary of Agriculture in the enforcement of the insecticide act of 1910. Samples of insecticides are collected in the open market and examined to determine whether or not they are adulterated or misbranded under the provisions of the act.

*Publications.*—Decisions based on the board's findings are contained in Service and Regulatory Announcements. The results of investigational work are published in the series of the appropriate bureau represented on the board (Bureaus of Entomology, Chemistry, Plant Industry, or Animal Industry).

## FEDERAL HORTICULTURAL BOARD.

*Principal administrative officials.*—Chairman; Secretary; Entomological Inspectors; Pathological Inspectors; In charge of Entry of Plants and Plant Products under Restriction.

*General information and duties.*—The Federal Horticultural Board, created August 21, 1912, assists the Secretary of Agriculture in the enforcement of the plant-quarantine act of August 20, 1912. It is also charged with work looking to the eradication of the pink bollworm of cotton.

*Publications.*—Decisions based on the board's findings are issued in the Service and Regulatory Announcements. The results of investigational work are published in the series of the appropriate bureau having representation on the board (Bureaus of Plant Industry and Entomology and the Forest Service).

## Part IX.—DEPARTMENT OF COMMERCE.

(For location of department and bureaus, see page 190.)

*Principal administrative officials.*—Secretary of Commerce, Assistant Secretary, Chief Clerk and Superintendent, Disbursing Clerk, Chief of Division of Appointments, Chief of Division of Publication, Chief of Division of Supplies.

*General information and duties.*—The Secretary of Commerce is charged with the work of promoting the commerce of the United States and its mining, manufacturing, shipping, fishery, and transportation interests. His duties also comprise the following:

(1) The administration of the Lighthouse Service and the aid and protection to shipping thereby.

(2) The taking of the census, and the collection and publication of statistical information connected therewith.

(3) The making of coast and geodetic surveys.

(4) The collection of statistics relating to foreign and domestic commerce.

(5) The inspection of steamboats, and the enforcement of laws relating thereto for the protection of life and property.

(6) The supervision of the fisheries as administered by the Federal Government.

(7) The supervision and control of the Alaskan fur-seal, salmon, and other fisheries.

(8) The jurisdiction over merchant vessels, their registry, licensing, measurement, entry, clearance, transfers, movement of their cargoes and passengers and laws relating thereto, and to seamen of the United States.

(9) The regulation of the enforcement and execution of the act of Congress relating to the equipment of ocean steamers with apparatus and operators for wireless communication.

(10) The custody, construction, maintenance, and application of standards of weights and measurements.

(11) The gathering and supplying of information regarding industries and markets for the fostering of manufacturing.

(12) And the formulation (in conjunction with the Secretaries of Agriculture and the Treasury) of regulations for the enforcement of the food and drugs act of 1906 and the insecticide act of 1910.

(13) He has power to call upon other departments for statistical data obtained by them.

Upon the organization of the Federal Trade Commission, created by the act approved February 26, 1914, the Bureau of Corporations ceased to exist as a bureau of the Department of Commerce and became a part of the Federal Trade Commission, and all pending investigation and proceedings of the former bureau were taken over by the Federal Trade Commission.

It is his further duty to make such special investigations and furnish such information to the President or Congress as may be required by them on the foregoing subject matters and to make annual reports to Congress upon the work of said department.

The Chief of the Division of Publications is charged by the Secretary of Commerce with the conduct of all business the department transacts with the Government Printing Office; the general supervision of printing, including the editing and preparation of copy, illustrating and binding, the distribution of publications, and the maintenance of mailing lists. The advertising done by the department is in his charge. He also keeps a record of all expenditures for the publishing work of the department and conducts the correspondence it entails.

*Publications.*—The division of publications issues at intervals a list of publications of all bureaus of the Department of Commerce available for distribution. It issues also, at the end of each month, a list of those printed during that month.

An Annual Report of the operations of the division is printed at the end of each fiscal year. This report is submitted to Congress and printed as a congressional document, in compliance with section 92 of the act of January 12, 1895 (28 Stat. L., 623).

These can be obtained by application to the Chief of Division of Publications, Department of Commerce, Washington, D. C.

## BUREAU OF THE CENSUS.

*Principal administrative officials.*—Director, Chief Clerk, Chief Statistician for Finance and Municipal Statistics, Chief Statistician for Manufactures, Chief Statistician for Population, Chief Statistician for Vital Statistics, Expert Special Agent in Charge of Revision and Results, Geographer, Expert Chiefs of Divisions.

*General information and duties.*—The Bureau of the Census is charged with the duty of taking the decennial censuses of the United States, of making certain other statistical investigations at regular intervals, and of collecting such special statistics as may be authorized by law from time to time. The act establishing the permanent Census Bureau requires that, after the completion of the regular decennial census, the Director of the Census shall decennially collect statistics relative to the defective, dependent, and delinquent classes; crime, including judicial statistics pertaining thereto; wealth, public indebtedness and expenditures, and taxation; religious bodies; transportation by water; and the fishing industry, in cooperation with the Bureau of Fisheries. Every five years statistics must be collected relating to manufactures, street railways, electric light and power stations, and telephone and telegraph business. Annual statistics must be gathered relating to births and deaths in States and cities maintaining efficient registration systems; the finances and various governmental activities of cities having populations of 30,000 and over; the production and distribution of cotton; and the quantity of leaf tobacco on hand.

*Decennial, quinquennial, and biennial publications.*—Under this heading are listed publications issued at intervals of ten years, five years, and two years, each being the latest of the series to which it belongs. There are also given a few which are not issued at regular intervals. All publications are of quarto size unless a different size is stated.

Population, 1910. (a) General report and analysis. (Vol. I. Reports of the Thirteenth Census; 1,373 pp.) Number, distribution; apportionment of representation; area; density of population; center of population; urban and rural population; population of cities; color; race, nativity; parentage (native or foreign); sex; marital condition; conjugal condition; birthplace; foreign born; mother tongue of foreign white stock; language, native, of foreign white stock; year of immigration; naturalization; citizenship of foreign born; age; voting age; militia age; school attendance; illiteracy; inability to speak English; dwellings and families; homes and families; ownership of homes. (The 16 chapters of this volume are also issued in the form of separate bulletins.)

(b) Reports by States, with statistics for counties, cities, and other civil divisions—Alabama to Montana. (Vol. II, Reports of the Thirteenth Census; 1,160 pp.)

(c) Reports by States, with statistics for counties, cities, and other civil divisions—Nebraska to Wyoming; Alaska, Hawaii, and Porto Rico. (Vol. III, Reports of the Thirteenth Census; 1,225 pp.)

Vols. II and III. Color; race; nativity; parentage; foreign born; sex; age; voting age; school age, and attendance; illiteracy; dwellings and families; homes and families; urban and rural; population in cities; citizenship of foreign born; naturalization; marital condition. (The contents of Vols. II and III are also issued in the form of separate bulletins, each relating to an individual State and to the District of Columbia, Alaska, Hawaii, or Porto Rico.)

(d) Occupation Statistics. (Vol. IV, Reports of the Thirteenth Census; 615 pp.)

This volume presents statistics showing number of gainfully employed persons 10 years of age and over, classified according to occupation in which engaged and according to sex, age, color or race, nativity, and parentage. (A summary of this report has been issued, in bulletin form. Two other bulletins have also been issued, one relating to cities of 100,000 and over, and the other to cities of 25,000 to 100,000.)

Agriculture, 1909 and 1910. (a) General report and analysis. (Vol. V, Reports of the Thirteenth Census; 927 pp.) Acreage; value of farms and

farm property; tenure; tenancy; mortgages; color or race of farmers; nativity of farmers; live stock and live-stock products; slaughtering on farms; crops; irrigation; plantations in the South. (The 12 chapters of this volume are also issued in the form of separate bulletins.)

(b) Reports by States, with statistics for counties—Alabama to Montana. (Vol. VI, Thirteenth Census Reports; 977 pp.)

(c) Reports by States, with statistics for counties—Nebraska to Wyoming; Alaska, Hawaii, and Porto Rico. (Vol. VII, Reports of the Thirteenth Census; 1,013 pp.) Vols. VI and VII. (State sections appear in alphabetical order. The more important statistics are presented separately for each county in each State.) Number, size, and value of farms; value of farm property; acreage, improved and unimproved; improved and unimproved land; domestic animals; poultry; bees; tenure; tenancy; color or race of farmers; nativity of farmers; mortgages; live stock and live-stock products; slaughtering on farms; crops; irrigation. (The contents of these volumes are also issued in the form of separate bulletins, each relating to an individual State and to the District of Columbia, Alaska, Hawaii, or Porto Rico.)

The census of agriculture is taken decennially.

Manufactures, 1909. (a) General report and analysis. (Vol. VIII, Reports of the Thirteenth Census; 845 pp.) Topics: Persons engaged in manufactures; proprietors, officers, and employees; employees; wage earners; capital; salaries and wages; cost of materials and fuel; expenses; power; products; value added by manufacture; character of ownership (corporation, individual or other); hours of labor; localization of industries.

(b) Reports by States, with statistics for principal cities. (Vol. IX, Reports of the Thirteenth Census; 1,404 pp.) Topics: Persons engaged; proprietors, officers, and employees; wage earners; power, capital; salaries and wages; cost of materials and fuel; expenses; products; value added by manufacture. (The contents of this volume have been issued in the form of separate bulletins, each relating to an individual State and to the District of Columbia, Alaska, Hawaii, and Porto Rico.)

(c) Reports for Principal Industries. (Vol. X, Reports of the Thirteenth Census; 979 pp.) Topics: This volume contains reports for 54 leading industries and groups of industries, in which are given statistics similar in scope to, but in greater detail than, those presented in Vol. VIII. (The contents of this volume have been issued in the form of 49 bulletins, 1 relating to manufactures in 13 metropolitan districts, and 48 relating to individual industries and groups of industries.)

Manufactures, 1914. Abstract; octavo, 722 pages. (The census of manufactures is taken quinquennially. The detailed results of the last inquiry, which covered the industrial operations of the calendar year 1914, have been published in the form of two series of bulletins, one containing statistics for individual States and the other for individual industries. These bulletins will later be bound together in the form of two or three large quarto volumes. The scope of the census is substantially the same as that for 1909.)

Mines and Quarries, 1909. Vol. XI, Reports of the Thirteenth Census; 369 pp.) Topics: Persons engaged; proprietors, officers, and employees; salaries and wages; hours of labor; products; cost of materials and supplies; royalties; rent; expenses; power; capital; character of organization (corporation, firm, individual, and other); contract work. (The sections of this report which relate to coal mining and to iron mining, respectively, have been published in the form of separate bulletins, one, of 55 pages, entitled "Coal," and the other of 25 pages, entitled "Iron mines.") (The census of mines and quarries is taken decennially. Annual statistics in regard to mineral products are published by the United States Geological Survey.)

Abstract of the Thirteenth Census, 1910. (569 pp., without supplement.) This publication presents condensed statistics relative to population (except occupations), agriculture, manufactures, and mines and quarries. It is issued in 53 editions, one without supplement and each of the others containing a supplement presenting detailed statistics relating to the four subjects named, for some one State and for the District of Columbia, Alaska, Hawaii, or Porto Rico. The State supplements are also issued separately.

Benevolent Institutions, 1910. (411 pp.) Topics: Institutions for the care of children; homes for care of adults or of adults and children; hospitals; sanitariums; dispensaries; institutions for the care of the blind and deaf; number and sex of inmates; receipts; expenditures; value of property.

**Insane and Feeble-minded in Institutions, 1910.** (217 pp.) Topics: Sex; color; race; nativity; parentage; age; marital condition of insane; illiteracy of insane; occupation of insane prior to admission to institution; alcoholic psychosis among insane; general paralysis among the insane; names and locations of institutions. (The statistics in this report are also presented, in condensed form, in Bulletin 119, of 99 pp.)

**Paupers in Almshouses, 1910.** (141 pp.) Topics: Sex; color; race; nativity; parentage; age; marital condition; illiteracy; occupation prior to admission; physical condition; mental or physical defects; children born in almshouses; names and locations of almshouses. (The statistics in this report are also presented, in condensed form, in Bulletin 120, of 99 pp.)

**Prisoners and Juvenile Delinquents, 1910.** (About 400 pp.) Sex; color; race; nativity; offense; sentence; names and locations of institutions. (The statistics in this report are also presented in condensed form in Bulletin 121, of 130 pp.)

**The Blind in the United States, 1910.** (282 pp.) Topics: Sex; age; color; race; nativity; nationality; marital condition; occupation. (A summary of the contents of this report is presented in Bulletin 130, of 52 pp.)

**Deaf Mutes in the United States, 1910.** (220 pp.) Topics: Sex; color; race; nativity; age; age at which deafness occurred; cause; lip-reading; deaf relatives; marital condition; school attendance; occupations. (A portion of the statistics contained in this report are given in an eight-page preliminary announcement entitled "The Census of the Deaf and Dumb, 1910.")

**Summary of State Laws Relative to the Care of the Dependent Classes, 1913.** (Octavo; 343 pp.) Topics: Paupers; blind; deaf and dumb; sick; infirm; homeless children; insane; feeble-minded; inebriates; soldiers, sailors, and marines.

**Statistical Directory of State Institutions, 1913.** (About 200 pp.) (In press.) Names and locations of State institutions for feeble-minded, insane, criminalistic, epileptic, inebriate, tuberculous, blind, deaf, deformed, and dependent; inmates, employees, expenditures.

**Marriage and Divorce, 1867-1906.** Part I. Summary, laws, and foreign statistics. (549 pp.) Topics: Marriages; marriage rates; divorces; divorce rates; divorces among Negroes; causes of divorce; intemperance as a cause of divorce; alimony; residence; duration of marriage when terminated by divorce; children; occupation of husband; remarriage of divorced persons; suicide among the divorced; laws relating to marriage and divorce; marriage and divorce in foreign countries. Part II. General tables. (850 pp.) Topics: Cause; libellant; duration of marriage when terminated by divorce; children; county statistics. (A summary of the statistics contained in this report is presented in Bulletin 96, of 71 pp.)

**Religious Bodies, 1906.** Part I. Summary and general tables. (576 pp.) Topics: Denominations; organizations; date of establishment; ministers; salaries of ministers; sex of members; language used in conduct of services; seating capacity of churches; value of property; debt; parsonages; Sunday schools; Negro organizations. Part II. Separate denominations. (670 pp.) History; doctrine; polity; organizations; sex of members; capacity of churches; seating capacity of churches; value of church property; debt; parsonages; Sunday schools. (A summary of the contents of this report is presented in Bulletin 103, of 149 pp.)

**Statistical Atlas of the United States, 1914.** (Text, 90 pp.; maps, charts, and diagrams, 503 pls.) The statistical atlas contains maps, charts, and diagrams by which are shown graphically some of the principal census statistics relating to population, agriculture, manufactures, mines and quarries, cotton, finances of cities, mortality, religious bodies, marriage and divorce, and insane in hospitals.

**Wealth, Debt, and Taxation, 1913.** Volume I. (886 pp.) Topics: Estimated value of public and private wealth; National and State indebtedness and funds and investments; county and municipal indebtedness and sinking-fund assets; taxation and revenue systems of State and local governments; assessments and taxes. Vol. II. (756 pp.) Topics: National and State revenues and expenditures and public properties of States; county revenues, expenditures, and public properties; municipal revenues, expenditures, and public properties. (The eight sections of this report have also been published in the form of separate bulletins.) (The inquiry relating to wealth, public debt, and taxation is made decennially.)

**Electrical Industries, 1912.** (a) Central electric light and power stations and street and electric railways. (440 pp.) Topics: Central electric light

and power stations: Commercial and municipal stations; character of ownership; stations operated in connection with electric railways; power equipment; generating equipment; financial statistics; cost; income; expenses; number of customers; output; employees; salaries and wages; technical aspects of advances in industry during the period of 1907-1912. Street and electric railways: Rolling stock; trackage; power; traffic; car mileage; municipal railways; elevated railways; subways; equipment; power; capitalization; cost of construction; income; expenses; dividends; interest; employees; salaries and wages; technical aspects of advances in industry during period 1907-1912. (The contents of this report are summarized in Bulletin 124, of 113 pages.)

(b) Telephones and Telegraphs and Municipal Electric Fire-alarm and Police-Patrol Signaling Systems. (208 pp.) Topics: Telephones: Equipment; traffic; Bell system; income; expenses; employees; salaries and wages; finances; dividends; interest; rates in important cities. Telegraphs: Land telegraphs; ocean cables; mileage of wire and cable; number of messages; number of offices; finances; employees; salaries and wages; income; wireless systems; governmental systems. Municipal electric fire-alarm and police-patrol signaling systems: Boxes; fire alarms; fire losses; insurance. (The contents of this report are briefly summarized in Bulletin 123, of 26 pages. The electrical industries inquiry is made quinquennially.)

Transportation by Water, 1906. (240 pp.) Topics: Number of craft; tonnage; ownership; valuation of vessels and of land property; power; income; employees; salaries and wages; freight; passengers carried; congressional appropriations; development of inland waterways. (This inquiry is made decennially.)

Fisheries of the United States, 1908. (324 pp.) Topics: Fishermen; employees; salaries and wages; capital; equipment; products; canning and preserving; exports; imports; fisheries of Alaska. (This inquiry is made decennially by the Census Bureau in cooperation with the Bureau of Fisheries.)

Official Register of the United States, 1917. (896 pp.) Topics: Federal officials and employees; Name; designation; position; place of employment; department; bureau or office; salary; State of birth; legal residence. (The Official Register is compiled biennially. It is not for free distribution, but is for sale by the Superintendent of Documents, Government Printing Office, at \$1.50.)

Mortality from Cancer and other Malignant Tumors in the Registration Area of the United States, 1914. (212 pp.) Topics: Deaths and death rates from cancer in the registration area (which contained approximately two-thirds of the population of the United States in 1914), classified according to sex, age, color, and nativity (whether native or of foreign birth) of decedent, and nativity of parents, and according to organ or part of body affected.

United States Life Tables, 1910. (85 pp.) This publication is a compilation based on the population in 1910 and the number of deaths in 1909, 1910, and 1911, for the New England States, New York, New Jersey, Indiana, Michigan, and the District of Columbia. It presents, for various elements of the population, classified according to sex, color, nativity, and residence in urban and rural localities, the death rate and the expectation of life at each month of age during the first year of life and at each year of age thereafter, together with other details. These tables are similar to those compiled by life insurance companies, but differ from the latter in that they relate to the entire population of the area covered, instead of only to risks selected through medical examination and otherwise.

Heads of Families—First Census of the United States, 1790. This publication is issued in 12 paper-bound volumes, each relating to a single State, as follows: Connecticut (227 pp.), Maine (105 pp.), Maryland (189 pp.), Massachusetts (363 pp.), New Hampshire (146 pp.), New York (308 pp.), North Carolina (292 pp.), Pennsylvania (428 pp.), Rhode Island (71 pp.), South Carolina (150 pp.), Vermont (95 pp.), Virginia (State enumerations, 1782 to 1785; 189 pp.). Each volume gives the name of each head of family, the total number of members of the family; the number of free white males 16 years of age and over, the number of free white males under 16 years of age, the total number of free white females, and the number of slaves. (The census "family" includes, in addition to the natural family, servants, lodgers, and others residing in the same apartment or dwelling. These volumes are not distributed free, but are for sale at \$1.00 each.)

*Annual and other periodical publications.*—The annual publications of the Census Bureau are listed below. It may be noted here that practically all the

Census Bureau's publications are periodical in character, being issued at intervals ranging in length from two weeks to ten years. The contents of the reports issued at two-weeks intervals—those relating to cotton—are brought together and published, in amplified form, in an annual bulletin, as explained below. All these reports are distributed free, so far as the size of the editions will permit; and in some cases where the edition is so nearly exhausted as to necessitate the discontinuance of further free distribution, copies may be purchased from the Superintendent of Documents, Government Printing Office.

**Mortality Statistics.** (Report for 1916 will contain about 700 pages.) Deaths in death-registration area (containing approximately two-thirds the population of the United States), classified according to sex, color, nativity, parentage (native or foreign), age, cause, and month; death rates for all causes combined and for individual causes.

**Birth Statistics.** (Report for 1916 will contain approximately 90 pages.) The forthcoming report is the second of an annual series in which will be presented, for the birth-registration area (which now contains approximately 32 per cent of the population of the United States), statistics of births, classified according to sex of child and according to color and nativity of parents. Birth rates and infant-mortality rates (that is, the number of deaths of infants under 1 year of age per 1,000 births) will also be given.

**Financial Statistics of Cities having a Population of Over 30,000.** (Last report published, which relates to the fiscal year 1916, contains 375 pages.) Revenues; receipts; revenue and nonrevenue; expenditures; interest; outlays for permanent improvements; assessments; taxes; public properties; indebtedness.

**General Statistics of Cities.** (The last report, which related to the fiscal year 1916, contained 188 pages.) These reports present statistics in regard to various activities of municipal governments. That for 1915 covered the subjects of governmental organizations, police departments, liquor traffic, and municipally owned water-supply systems. The next report will relate to recreation facilities, such as parks, playgrounds, bathing beaches, music and entertainment provided by the city, art galleries, museums, etc.

**Financial Statistics of States.** (The report for 1916 contained 127 pages.)—Revenues; receipts, revenue and nonrevenue; expenditures; interest; outlays for permanent improvements; assessments; taxes; public properties; indebtedness.

**Cotton Production and Distribution.** (Report for season of 1916-17 is presented in Bulletin 135, of 144 pages.)—Production; acreage; supply; distribution; price; value; cotton seed; linters; ginneries; stocks; spindles; imports; exports. (Data as to the ginning of cotton to specified dates; as to cotton consumed, imported, exported, and on hand, and number of cotton spindles in operation, each month; and as to cotton seed crushed and linters obtained to specified dates, are collected, and printed on postcards, a total of about 26 such reports being compiled in the course of a year. These reports are mailed to ginners, manufacturers, warehousemen, and others.)

**Leaf Tobacco held by Manufacturers and Dealers.** (Last report related to January 1, 1918.)—These reports are issued quarterly and are printed on postcards which are mailed to growers, dealers, and others interested in the tobacco industry. They show the amounts of leaf tobacco on hand, unstemmed and stemmed, classified according to principal types. It is the intention hereafter to issue also an annual report, in pamphlet form, in which the statistics will be presented in greater detail than in the quarterly reports.

**Annual Report of the Director of the Census to the Secretary of Commerce.** (Report for fiscal year 1917 is of octavo size and contains 43 pages.)—These reports describe the operations of the Census Bureau during the years to which they relate, outline plans for future work, list the publications issued, make recommendations for legislation needed, and present tabular statements of appropriations and expenditures.

**List of publications.**—The Census Bureau has for distribution a pamphlet containing descriptive and chronological lists of all its publications, including those not available for distribution. No monthly list of publications is issued, but the various publications of the bureau are listed in the department monthly list.

**Method of distribution of publications.**—Nearly all reports, bulletins, etc., issued by the Census Bureau are for distribution on request, so far as the size of the editions will permit, with the exceptions of the Official Register of the United States and Heads of Families—First Census of the United States. The former publication is sold by the Superintendent of Documents, Government Printing Office, at \$1.50; and the latter is for sale by the Director of the Census



at \$1.00 per volume. Some of the publications of which the editions are so nearly exhausted that they are no longer available in the bureau are also for sale by the Superintendent of Documents.

*Mailing list.*—Mailing lists for various Census publications are maintained. In the case of most of the decennial and quinquennial inquiries, the bound volumes containing the complete reports are issued in comparatively small editions for distribution to libraries and educational institutions and to statisticians, officials, and others who have particular use for the detailed statistics which they contain. Summaries or abstracts of these reports, and in many cases complete sections of the reports, are, however, generally printed in the form of paper-bound bulletins, in much larger editions than the reports themselves, and these are usually available, during a period of several years after their first publication, for distribution to all who desire them.

*Maps.*—The Census Bureau does not publish any maps except as may be included in reports and bulletins.

*Correspondence.*—Requests for Census publications should be addressed to the Director of the Census, Washington, D. C.

## BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

*Principal administrative officials and offices.*—Chief; Assistant Chief (First); Assistant Chief (Second); Chief Clerk. Chiefs of Divisions: Statistics, Editorial, Foreign Tariffs. District Offices: New York, Commercial Agent; Boston, Commercial Agent; Chicago, Commercial Agent; St. Louis, Commercial Agent; New Orleans, Commercial Agent; San Francisco, Commercial Agent; Seattle, Commercial Agent. Commercial Attachés: London, England; Paris, France; Petrograd, Russia; Peking, China; Buenos Aires, Argentina; Rio de Janeiro, Brazil; Lima, Peru; The Hague, Netherlands; Copenhagen, Denmark; Melbourne, Australia; Tokio, Japan.

*General information and duties.*—The Bureau of Foreign and Domestic Commerce is charged by law with the duty of "developing the various manufacturing industries of the United States and markets for their products at home and abroad, by gathering and publishing useful information, or by any other available method." In carrying out this function of gathering information advantage is taken of the relations of the bureau with many other branches of the Federal service.

Use is made especially of the Consular Service, through the Department of State, to obtain reports on the trade of foreign countries and opportunities for the sale abroad of articles produced in the United States. This material is edited in the bureau and distributed to the commercial public by means of the daily Commerce Reports and supplements thereto, and also by means of special bulletins and pamphlets and confidential circulars or letters.

The bureau directs the commercial attaché service in studies of foreign markets for American goods. The attachés devote all their time to the study of commercial problems and the results of their investigations are published in Commerce Reports or in monograph form. There are attachés at London, Paris, Petrograd, Buenos Aires, Rio de Janeiro, The Hague, Copenhagen, Tokio, Lima, Peking, and Melbourne.

The bureau is also equipped with a corps of special agents, who supplement the work of the consular officers through special investigations for which they are fitted by training or experience. The reports of these agents are published in Commerce Reports or as monographs. A special staff at the bureau supervises this work.

In connection with its trade promotion work the bureau maintains a Division of Foreign Tariffs, where information in regard to customs tariffs and regulations of foreign countries is compiled in compliance with specific requests, as well as for publication in Commerce Reports and separate monographs. In addition to information in regard to foreign customs tariffs, the bureau also furnishes information regarding patent and trade-mark laws of foreign countries, consular regulations, treatment of commercial travelers and their samples, pure food and drug laws, embargoes, contraband, and similar restrictive measures.

Statistical information in regard to imports and exports is received by the bureau in monthly and quarterly returns from the collectors of customs, showing the articles imported and exported and the countries from which articles are imported and to which articles are exported. These statistics are printed first in the Monthly Summary of Foreign Commerce and widely distributed. Very detailed import statistics are published quarterly. Annual statistics of

our foreign trade are published in detail in *Commerce and Navigation of the United States*. The *Statistical Abstract of the United States* presents in condensed form statements regarding the commerce, production, industries, population, finance, etc., of the United States and a statement of the commerce of the principal foreign countries.

The distribution work of the bureau has been greatly facilitated by the establishment of district offices in New York, Boston, Chicago, St. Louis, New Orleans, San Francisco, and Seattle. These offices expedite the distribution of commercial information and establish closer relations between Government and private agencies interested in the extension of foreign trade. Arrangements have also been made with commercial organizations in other cities to establish cooperative branch offices, which will serve the same purposes as the bureau's own district offices. Such cooperative offices have been established in Cincinnati, Cleveland, Los Angeles, Philadelphia, Portland (Oreg.), and Dayton.

*General publications.*—The general publications of the Bureau of Foreign and Domestic Commerce are issued in four series: (1) Special Agents Series; (2) Special Consular Reports; (3) Tariff Series; (4) Miscellaneous Series.

1. *Special Agents Series.* These include 167 monographs to date on special industries and special phases of commerce, prepared by commercial agents. The topics treated include trade conditions and markets for different commodities and manufactures in different countries.

2. *Special Consular Reports.* These include monographs (80 to date) compiled from the reports of consular officers on some selected commercial or industrial topic.

3. *Tariff Series.* These include monographs (38 to date) giving the customs duties of foreign countries, customs regulations, laws governing commercial travelers, trade-mark laws and regulations.

4. *Miscellaneous Series.* These include publications (66 to date) not falling in the three classes above mentioned, being chiefly such publications as have been prepared in the bureau. Among these publications are the reports on the cost of production in various industries.

*Method of distribution of general publications.*—The general distribution of the bureau's publications is on a sales basis. Limited editions of the general publications are printed for free distribution by the bureau to the press, trade journals, public libraries, commercial organizations, and other agencies assisting the bureau in its trade-promoting work. All publications of the bureau are sold by the Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—These include: (a) *Commerce Reports.* (Daily.) Single copies, 5 cents; annual subscription, \$2.50; cloth-bound quarterly volumes, with index, \$6 per annum.

(b) *Foreign Commerce and Navigation of the United States.* (Annual.) \$1.50.

(c) *Imports of Merchandise into the United States, by Articles and Countries* (five-year tables). (Table 3 from *Foreign Commerce and Navigation of the United States.*) (Annual.) 40 cents.

(d) *Exports of Domestic Merchandise from the United States, by Articles and Countries* (five-year tables). (Table 5 from *Foreign Commerce and Navigation of the United States.*) (Annual.) 50 cents.

(e) *Imported Merchandise Entered for Consumption in the United States and Duties Collected Thereon.* (Quarterly.) Single copies, 15 to 25 cents; (Tables 9 and 10 from *Foreign Commerce and Navigation of the United States.*) (Annual.) 15 cents.

(f) *Statistical Abstract of the United States.* (Annual.) 50 cents.

(g) *Imported Merchandise Entered for Consumption in the United States and Duties Collected Thereon.* (Quarterly.) Single copies, 15 to 25 cents; annual subscription, 75 cents.

(h) *Summary of the Foreign Commerce of the United States.* (Monthly.) Single copies, 15 cents; annual subscription, \$1.50.

(i) *Bulletin of Exports of Domestic Breadstuffs, Meat, and Dairy Products, Cotton, and Mineral Oils.* (Monthly.)

(j) *Total Values of Imports and Exports of the United States.* (Monthly.)

(k) *Foreign Tariff Notes.* (Quarterly.) Reprints of tariff notes from *Commerce Reports*.

*List of publications.*—The bureau has issued a catalogue of its general publications, in which the publications are grouped by subjects; the catalogue has an index. There are not included in this catalogue certain of the special consular reports and the tariff series. The bureau has also published leaflets list-

ing its publications of current value. No monthly list of publications is issued. The Division of Publications of the Department of Commerce issues such a list, which includes, of course, the publications of this bureau.

*Indexes to publications.*—An index of Commerce Reports is published quarterly. The price of the index to Commerce Reports is 20 cents a year. An index to the Supplements to Commerce Reports is published annually. No general index of the bureau's publications has been issued.

*Mailing lists.*—Copies of the bureau's publications are furnished free to the press, public libraries, and commercial organizations, when special requests are made. No general mailing list for all publications is maintained.

*Correspondence.*—General inquiries concerning the bureau's publications should be addressed to the Bureau of Foreign and Domestic Commerce, Washington, D. C.

## BUREAU OF STANDARDS.

*Principal administrative officials.*—Director, Bureau of Standards, Chief Physicist, Chief Chemist, Physicists, Secretary, Superintendent of Mechanical Plant.

*General information and duties.*—The functions of the Bureau of Standards is as follows: (a) The custody of the standards; (b) the comparison of the standards used in scientific investigations, engineering, manufacturing, commerce, and educational institutions with the standards adopted or recognized by the Government; (c) the construction, when necessary, of standards, their multiples and subdivisions; (d) the testing and calibration of standard measuring apparatus; (e) the solution of problems which arise in connection with standards; (f) the determination of physical constants and properties of materials, when such data are of great importance to scientific or manufacturing interests and are not to be obtained of sufficient accuracy elsewhere; (g) formation of standards for public utility service; (h) testing structural and other materials; (i) technologic researches; and other investigations as authorized by Congress.

The bureau is authorized to exercise its functions for the Government of the United States, for any State or municipal government within the United States, or for any scientific society, educational institution, firm, corporation, or individual within the United States engaged in manufacturing or other pursuits requiring the use of standards or standard measuring instruments. For all comparisons, calibrations, tests, or investigations, except those performed for the Government of the United States or State governments, a reasonable fee will be charged.

*General publications.*—Material is issued on the following topics: Acidimetry (standard); Alloy, metallurgy, research; Analysis (standard methods); Anemometers; Appliances (specifications); Axles, and other railroad materials; Balances and scales; Barometer testing; Brasses and bronzes (research); Calorimetry; Capacity measurements; Cement testing and research; Cement (standard specifications); Chemical analysis; Chemical properties of materials; Clay and clay products (testing); Color standards; Colorimetry; Columns, steel (testing); Combustion samples for calorimetry; Conductivity of structural materials; Constants (standards of physical); Density and hydrometer measurements; Electric cells (standard); Electric current testing; Electric meter measurement; Electrical conductivity of materials; Electrical lamps, Electrical measurements; Electrical practice standards, Electrical properties of materials; Electrical resistance measurements; Electrical standards and instruments; Electrical service standards; Electrolysis; Engineering instruments; Engineering materials (testing and research); Expansion of materials; Failures of metals (causes); Fire resisting properties of materials; Gas meter testing; Gas service standards; Gasoline standards (testing and research); Geodetic metal tapes (test of); Girders, steel (testing); Glass testing and research; Heat conductivity of materials; Heat measurements; Heat measuring instruments (testing); Heat standards; Hygrometry and density measurements; Inspection of weights and measures; Interference of light; Inks (testing and research); Instruments (engineering); Investigation of miscellaneous materials; Lamps (electrical); Length measurements; Light (interference); Light (standards); Light waves (measurements); Lime and stucco testing and research; Lubricating oils (testing and research); Magnetic testing; Magneto-optics; Mass measurements; Measurements (standards); Measurements of capacity, length, time, etc.; Mechanical standards of performance; Melting

point standards for thermometry; Metal tapes, surveyors' (testing); Metals and paper (testing and research); Metals (properties); Metals (causes of failure); Meter, electric, instrument force; Meter, gas (testing); Materials (testing and investigation); Materials, structural (testing and research); Metric system of weights and measures; Metallurgy alloy research; Oils, lubricating (testing and research); Optical instruments and standards; Optical materials; Optical properties of materials; Optical standards (constants and data); Optics (magneto); Oxidimetry (standards); Paper (testing and research); Performance (standards); Photometry; Photomicrography; Physical constants (standards); Polarimetry; Pressure gages; Pressure measurements; Properties of materials and metals; Pyrometry; Quality, standards (testing and research); Radiation (loss); Radiometry; Railroad materials (investigation); Rails (technology); Refrigeration; Research work with materials and metals; Resistance (measurements of electrical); Saccharimetry; Samplers, standard (analysis); Scales and balances; Silver voltometer; Specifications and tolerances for measuring apparatus; Specifications for materials; Speedometers; Standard methods of analysis; Standards for materials (testing and research); Standards of quality (testing and research); Standards of measurements; Standards of oxidimetry; Stone (testing and research); Stucco (testing and research); Sugar analysis; Sugar standard polarization for polarimetry; Surveyors' and geodetic metal tapes; Steel columns (testing); Steel girders (testing); Structural materials (testing and research); Structural steel column tests; Tapes (surveyors' and geodetic); Testing and research of various materials; Testing gas meters; Testing miscellaneous materials; Testing watches; Textiles (testing and research); Thermal properties of materials; Thermometry (heat measurements); Thermopiles; Time measuring (instruments); Tolerances and specifications for measuring apparatus; Voltmeter (silver); Watch testing; Weights and measures; Weights and weighing instruments.

*Method of distribution.*—Publications of the Bureau of Standards are distributed free of charge so long as the stock for free distribution is available. When a publication of this bureau is no longer available for free distribution, copies may be obtained by addressing the Superintendent of Documents, Washington, D. C., who will advise the writer concerning the prices of such papers, and supply same on receipt of the proper remittance.

*Annual and other periodical publications.*—An annual report is printed each year giving activities of the Bureau of Standards. Free on application.

*List of publications.*—A list of publications of the Bureau of Standards is available for free distribution and will be sent on receipt of request. No monthly list of new publications is published by this bureau, but such a list is included in the monthly announcement list of the Department of Commerce. These publications are identified by initial of series and serial number, e. g., "S 309" means serial No. 309 of the Scientific Papers.

*Indexes to publications.*—The Bureau of Standards has had one general index known as the "Decennial Index" (the first ten years, 1904-1914), which is for the Bulletins (i. e., Scientific Papers) only. This index is still available for free distribution.

*Mailing lists.*—A mailing list for public libraries and certain university libraries is maintained by the bureau. Some mailing lists classified according to the different classes of specialists of work carried on at the Bureau of Standards are also at present being maintained.

*Maps and charts.*—The Bureau of Standards issues a Metric System Chart which illustrates graphically the comparison between the English and the metric systems of weight and measure. This chart is sent free of charge to schools, commercial organizations, and other institutions on application being made to this bureau.

*Correspondence.*—All requests for publications should be addressed simply Director, Bureau of Standards, Washington, D. C.

## BUREAU OF FISHERIES.

*Principal administrative officials.*—Commissioner; Deputy Commissioner; Assistants in Charge of Divisions: Office, Inquiry Respecting Food Fishes, Fish Culture, Statistics and Methods; Architect and Engineer; Accountant.

*General information and duties.*—The work of the Bureau of Fisheries comprises (1) the propagation of useful food fishes, including lobsters, oysters, and other shellfish, and their distribution to suitable waters; (2) the inquiry into

the causes of decrease of food fishes in the lakes, rivers, and coast waters of the United States, the study of the waters of the coast and interior in the interest of fish culture, and the investigation of the fishing grounds of the Atlantic, Gulf, and Pacific coasts, with the view of determining their food resources and the development of the commercial fisheries; (3) the collection and compilation of the statistics of the fisheries and the study of their methods and relations; (4) the administration of the salmon fisheries of Alaska, the fur-seal herd on the Pribilof Islands, and the fur-bearing animals of Alaska.

*General publications.*—(a) Special reports in the form of octavo pamphlets, and (b) bulletins in the form of royal octavo pamphlets, embracing the following general subjects: Fish culture, fish-cultural methods and practices, fishery industries and methods, shellfish, Alaska fisheries, aquatic biology, morphology and physiology of aquatic animals, marine and fresh-water explorations, disease and parasites of fishes, etc. The special reports are the usual medium for publication of practical and economic subjects, and the bulletins of scientific and technical matters. These reports and bulletins are respectively grouped as annual series, and title pages and tables of contents are furnished to those who wish to bind them.

(c) Economic circulars which contain brief advance reports of investigations of economic importance or brief statements of information of timely significance not requiring more extensive treatment. These circulars are octavo leaflets, with independent serial numbers.

(d) Special statistical bulletins on various fishery industries issued as occasion demands or as investigations or canvasses are completed. These bulletins are single sheets, with independent serial numbers.

*Method of distribution of general publications.*—All publications of the bureau have heretofore been distributed free, but hereafter they will be sent out through the Superintendent of Documents, who will make a charge therefor. The free distribution of documents is now restricted to institutions exchanging with or cooperating with the bureau, and foreign and State fishery officials.

*Annual and other periodical publications.*—(a) The Annual Report of the Commissioner of Fisheries to the Secretary of Commerce. A brief administrative record of the year's activities.

(b) The Annual Report of the Distribution of Fish and Fish Eggs. A record of the fish hatched and rescued and eggs obtained and the disposition of same.

(c) Alaska Fisheries and Fur Industries. An annual record of the work of the bureau in this field, covering (1) the enforcement of the law and regulations having to do with the protection and conservation of the fisheries and operation of hatcheries; (2) administration of the American fur-seal herd of the North Pacific Ocean; and (3) the enforcement of the law for the protection of the fur-bearing animals generally.

(d) Service Bulletin, an octavo leaflet with independent serial numbers, issued monthly. It contains information of the general activities of the bureau during the preceding month, and serves as a medium of communication between the administrative offices and all employees.

*List of publications.*—A list of those available for distribution is published. No monthly list is issued.

*Indexes to publications.*—There is an indexed list of publications from February, 1871, to February, 1896, now out of print.

*Correspondence.*—Official communications should be addressed to the Commissioner of Fisheries, Washington, D. C.

## BUREAU OF LIGHTHOUSES.

*Principal administrative officials.*—Commissioner, Deputy Commissioner, Chief Constructing Engineer, Baltimore, Md., Superintendent of Naval Construction, Chief Clerk.

*General information and duties.*—The United States Lighthouse Service is charged with the establishment and maintenance of aids to navigation, and with all equipment and work incident thereto, on the sea and lake coasts of the United States, and on the rivers of the United States so far as specifically authorized by law, and on the coasts of all other territory under the jurisdiction of the United States, with the exception of the Philippine Islands and Panama.

The bureau publishes Light Lists and Buoy Lists, giving information regarding all aids to navigation maintained by the Lighthouse Service; it also publishes each week, jointly with the Coast and Geodetic Survey, Notices to Mariners, giving the changes in lights, buoys, etc.

*General publications.*—(a) Useful Information Concerning Aids to Navigation. A card that shows selected types of buoys, and gives general information relative to buoy colors, numbers, and shapes; day beacons, buoy lists, protection of aids, defects in aids, and distances of visibility for objects of various elevations above sea level. Free distribution.

(b) Lighthouse Service. 4 pages. Gives historical sketch and general description of the United States Lighthouse Service. Free distribution.

(c) Whitewash and Cement-wash Formulas. Free distribution.

(d) The United States Lighthouse Service, 1915. 94 pages, illustrated. Furnishes general information regarding the organization and operation of the United States Lighthouse Service. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 15 cents per copy.

(e) Medical Handbook for the Use of Lighthouse Vessels and Stations. 116 pages. Prepared for the benefit of officers and employees of the Lighthouse Service whose duty on vessels and at remote stations may render it difficult at times for them to obtain necessary medical assistance or advice. Explains the treatment of a few of the commoner diseases, and contains a supplement on "First Aid to the Injured." Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 50 cents per copy.

(f) Regulations for Lighting Bridges over Navigable Waters; also for Lights on Sheer Booms, Piers, Dams, and Similar Obstructions to Navigation, 1915.

*Annual publications.*—(a) Annual Report of the Commissioner of Lighthouses, submitted annually to the Secretary of Commerce, reporting the operations of the United States Lighthouse Service for the fiscal year ended June 30. Free distribution. Mailing list maintained.

(b) Light List, Atlantic and Gulf Coasts of the United States, coast of Porto Rico, etc.

(c) Light List, Pacific Coast of the United States, and on the coasts of Alaska, the Hawaiian, Midway, Guam, and Samoan Islands; and also aids to navigation maintained by the Canadian Government on the coast of British Columbia.

(d) Light Lists, Great Lakes, United States and Canada. On the Great Lakes, the St. Lawrence River above St. Regis River, and on Lakes Memphremagog and Champlain.

(e) Light List, Thirteenth Lighthouse District. Upper part of the Mississippi (above Cairo, Ill.), the Illinois, Missouri, Minnesota, Gasconade, and Osage Rivers, St. Croix River and Lake, and Lake Traverse.

(f) Light List, Fourteenth Lighthouse District. On the Ohio, Tennessee, Kanawha, and Monongahela Rivers.

(g) Light List, Fifteenth Lighthouse District. On the Mississippi River below mouth of the Missouri River and above New Orleans, and on the Red River.

*Biennial publications.*—(a) Buoy List, First Lighthouse District. Maine and New Hampshire.

(b) Buoy List, Second Lighthouse District. Massachusetts, excepting Mount Hope Bay and Taunton River.

(c) Buoy List, Third Lighthouse District. Between the entrances to Narragansett and Delaware Bays, also the aids on Lakes Champlain and Memphremagog.

(d) Buoy List, Fourth Lighthouse District. Delaware Bay and River.

(e) Buoy List, Fifth Lighthouse District. Coast and tributary tidal waters of Delaware, Maryland, Virginia, and North Carolina from, but does not include, Fenwick Island Light Station, Delaware, to New River Inlet, North Carolina.

(f) Buoy List, Sixth Lighthouse District. North Carolina, South Carolina, Georgia, and Florida from New River Inlet, North Carolina, to Hillsboro Inlet Light Station, Florida.

(g) Buoy List, Seventh Lighthouse District. Florida and on other waters tributary to the sea and gulf from a point just south of Hillsboro Inlet Light Station, Florida, to and including Cedar Keys, Florida.

(h) Buoy List, Eighth Lighthouse District. The Gulf Coast of the United States, and tidal waters tributary to the Gulf, from, but not including, Cedar Keys, Florida, to the Rio Grande.

(i) Buoy List, Ninth Lighthouse District. Porto Rico and adjacent Islands, and Guantanamo Bay, Cuba.

(f) Buoy List, Tenth Lighthouse District. Lake Erie, Lake Ontario, and the St. Lawrence River above the mouth of the St. Regis River.

(k) Buoy List, Eleventh Lighthouse District. Lakes St. Clair, Huron, and Superior, and the Detroit, St. Clair, and St. Marys Rivers.

(l) Buoy List, Twelfth Lighthouse District. Lake Michigan and Green Bay.

(m) Buoy List, Sixteenth Lighthouse District. Alaska.

(n) Buoy List, Seventeenth Lighthouse District. Oregon and Washington.

(o) Buoy List, Eighteenth Lighthouse District. California.

(p) Buoy List, Nineteenth Lighthouse District. Hawaiian, Midway, Guam, and the American Samoan Islands.

*Weekly publications.*—Notice to Mariners (issued jointly with Coast and Geodetic Survey), gives prompt notice of changes in aids to navigation and of obstructions or changes in channels which are to be noted on charts and light and buoy lists.

*Method of distribution.*—A copy of any Light List, Buoy List, or Notice to Mariners will be sent free of charge to any shipmaster or pilot upon application. Mailing lists of the Light and Buoy Lists, and Notice to Mariners are maintained.

*List of publications.*—A list of publications of the bureau, available for distribution, is published semiannually by the division of publications of the department.

*Correspondence.*—Requests for free publications or to have names placed on mailing lists should be addressed to the Chief, Division of Publications, Department of Commerce, Washington, D. C.

## COAST AND GEODETIC SURVEY.

*Principal administrative officials.*—Superintendent; Assistant Superintendent; Hydrographic and Geodetic Engineer in Charge of Office; Chiefs of Divisions: Geodesy, Hydrography and Topography, Charts, Terrestrial Magnetism, Accounts.

*General information and duties.*—The Coast and Geodetic Survey is charged with the survey of the coasts of the United States and coasts under the jurisdiction thereof and the publication of charts covering said coasts. This includes (a) base measure, triangulation, topography, and hydrography along said coasts; (b) the survey of rivers to the head of tidewater or ship navigation; (c) deep-sea soundings, temperature, and current observations along said coasts and throughout the Gulf and Japan streams; (d) magnetic observations and researches, and the publication of maps showing the variations of terrestrial magnetism; (e) gravity research; (f) determination of heights; (g) the determination of geographic positions by astronomic observations for latitude, longitude and azimuth, and by triangulation, to furnish reference points for State surveys; (h) the preparation and publication of sailing directions, and tide tables for all of the coasts under the jurisdiction of the United States.

The results obtained are published in annual reports and in special publications; charts upon various scales, including sailing charts, general charts of the coast, and harbor charts; tide tables issued annually in advance; Coast Pilots, with sailing directions covering the navigable waters; Notices to Mariners published jointly by Coast and Geodetic Survey and Bureau of Lighthouses), issued weekly and containing current information necessary for safe navigation; catalogues of charts and publications; and such other special publications as may be required to carry out the organic law governing the survey.

*General publications.*—Publications are issued on following subjects: Astronomy; Azimuth; Azimuth of Polaris (tables); Bars (base); Base lines; Charts; Coast line; Coast pilots; Coastwise navigation; Coasts; Compass variation; Currents; Deep-sea soundings; Deflection of plumb line; Depth of compensation; Depths; Diurnal variation; Double zenith distances; Earth form; Earth flattening; Earthquakes; Elevations; Elongation and culmination of polaris (times of); Figure of the earth; Geoid; Geodesy; Geodetic astronomy; Geographic positions; Gravity; Harbors; Hydrography; Inland navigation; Inside route pilots; Interferometer; Invar leveling rods; Invar tapes; Isoclinic chart; Isogonic chart; Isostasy; Isostatic compensation; Latitude; Least squares; Levelling; Longitude; Magnetic charts; Magnetic declination; Magnetic dip; Magnetic disturbances; Magnetic horizontal intensity; Magnetic inclination; Magnetic measurements (directions); Magnetic observations (results); Magnetic observatories; Magnetic stations (descriptions); Magnetic survey of the United States; Magnetic tables; Magnetic vertical intensity; Maps; Map projections;

Meridians; Meridian lines; Nautical information; North American datum; Oceanography; Orthometric correction; Parallels; Pendulum apparatus; Pinnacle rocks; Polar coordinates; Precise leveling; Principal facts of the earth's magnetism; Reconnaissance; Refraction; Sailing directions; Sea level; Secular change tables; Shoals; Shore line; Signal building; Spheroid; Spirit leveling; Star observations; Steel tapes; Surveys; Tapes; Terrestrial magnetism; Tides; Time; Topography; Triangulation (primary); Triangulation (secondary); Triangulation (tertiary); Trigonometric leveling; True bearings (at magnetic stations); True meridian (directions for determining); Variation of compass; Wire drag work.

*Method of distribution of general publications.*—All publications included under paragraph 2 are distributed free except coast pilots and inside route pilots, which are sold at the cost of paper and printing.

*Annual and other periodical publications.*—(a) Annual Report of the Superintendent of the U. S. Coast and Geodetic Survey. Free. The report is divided into three parts as follows: Part I outlines the functions of the bureau, the branches into which it is divided, their functions, what has been accomplished in the office during the year just passed, and the needs of the office. Part II deals with the urgent needs in the field and necessary expansion of the work. Part III is a detailed statement for the past year of accomplished field and office work of the bureau.

(b) General Tide Tables. Annual. The predicted time and height of the tide at the principal ports of the United States and at many foreign ports are given in these tables for every day of the year, with a table of differences, by means of which the times and heights at intermediate ports may be ascertained. Reprints of the tables for Atlantic and Pacific coasts of the United States are issued separately. General tide tables, 50 cents; reprints, 10 cents each. To be obtained from the Superintendent, U. S. Coast and Geodetic Survey, Washington, D. C., and the chart agencies of the Survey.

(c) Notice to Mariners. Weekly. Free. Published jointly with the Bureau of Lighthouses. Corrections to be applied to charts to keep them up to date, announcement of new charts, new editions of charts, charts canceled, editions canceled and of the various nautical publications of the survey are included in these notices.

*List of publications.*—The available publications of the bureau are included in the List of Publications of the Department of Commerce Available for Distribution, issued twice a year. A monthly list of the publications of the survey is included in the Monthly List of the Publications of the Department of Commerce.

*Indexes to publications.*—The List and Catalogue of the Publications of the U. S. Coast and Geodetic Survey, 1816 to August, 1908, inclusive, has been issued by the bureau. A new edition is in preparation for free distribution.

*Mailing lists.*—Free mailing lists for the publications of this bureau are maintained in the Division of Publications, Department of Commerce, as follows: No. 111, Annual Report; No. 112, Geodetic Publications; No. 114, Magnetic Publications; No. 115, Philippine Publications; No. 116, Hydrographic and Miscellaneous Publications.

*Maps and charts.*—Charts of the Coasts of the United States, the West Indies, Panama Canal Zone, Alaska, Hawaiian and Marianas Islands, Philippine Islands, Topographic Maps of the Philippine Islands. These charts and maps are sold at the cost of paper and printing.

*Correspondence.*—Address, Superintendent, Coast and Geodetic Survey, Washington, D. C.

## BUREAU OF NAVIGATION.

*Principal administrative officials.*—Commissioner, Deputy Commissioner, Chief Clerk, Radio Inspector in Charge.

*General information and duties.*—The Bureau of Navigation is charged with general superintendence of the commercial marine and merchant seamen of the United States, except so far as supervision is lodged with other officers of the Government. It is specially charged with the decision of all questions relating to the issue of registers, enrollments, and licenses of vessels and the filing of those documents, with the supervision of laws relating to the admeasurement, letters, and numbers of vessels, and with the final decision of questions concerning the collection and refund of tonnage taxes. It is empowered



to change the names of vessels, and prepares annually a list of vessels of the United States. The commissioner also investigates the operation of the laws relative to navigation, and annually reports to the Secretary of Commerce such particulars as may in his judgment admit of improvement or require amendment.

In addition to the above statutory duties the bureau is charged, under direction of the Secretary of Commerce, with the enforcement, through collectors and surveyors of customs and radio inspectors, of the navigation and steam-hoat-inspection laws, and the laws governing radio communication, and the consideration of action to be taken on fines, penalties, and forfeitures incurred under those laws; administrative examination of accounts of collectors, surveyors of customs, and shipping commissioners covering fines, penalties, and forfeitures; services to vessels; navigation fees; amounts collected on account of decrease of passengers, tonnage-tax collections, refunds; shipment and discharge of seamen, etc.

*General publications.*—(a) Radio Laws and Regulations of the United States. This publication includes the radio laws of the United States, the London Radiotelegraphic Convention, regulations applying to the radio laws and the convention, and general radio information.

(b) Important Events in Radiotelegraphy. This is a brief history of the development of radiotelegraphy and of the radio service and shows the value of radio as a safeguard to life at sea.

*Method of distribution of general publications.*—The Radio Laws and Regulations is sold at 15 cents per copy and the Important Events in Radiotelegraphy is sold at 5 cents per copy.

*Annual and other periodical publications.*—(a) Report of the Commissioner of Navigation. This publication contains a general review of the effect of the various laws upon merchant shipping; a résumé of the work of the Bureau of Navigation; detailed statistics of the American merchant marine and statistics of the merchant marines of the principal maritime countries of the world.

(b) List of Merchant Vessels of the United States. This publication contains the names in alphabetical order and other data of all merchant vessels of the United States, and also of vessels of the various branches of the Government, together with a list of vessels lost during the year. (Confidential.)

(c) Seagoing Vessels of the United States. This publication contains the names of merchant vessels, yachts, and Government vessels, arranged in the order of their signal letters; the names and addresses of the owners of the merchant vessels; the names of all merchant vessels, yachts, and Government vessels equipped with radio apparatus together with their call letters; lists of radio stations; flags of the principal maritime nations; and flags and pennants used in the international code. (Confidential.)

(d) Radio Stations of the United States. This list includes the names of land radio stations, special radio stations, and amateur radio stations, together with the call letters of each station and other information of value to radio operators. (Confidential.)

(e) Navigation Laws of the United States. Published once in four years, and contains the existing laws relating to shipping. A supplement is issued at the end of each session of Congress.

(f) Radio Service Bulletin. This bulletin is issued monthly and is a supplement to the Radio Stations of the United States. It contains the names of new stations, alterations and corrections in old stations, amendments to the regulations and other matter of general interest. (Suspended during the war.)

*Method of distribution.*—(a) Radio Laws and Regulations of the United States, and (d) Radio Stations of the United States, are distributed partly free and partly sold; (b) List of Merchant Vessels of the United States, and (c) Seagoing Vessels of the United States, partly free and partly sold.

(e) Navigation Laws of the United States is distributed partly free and partly sold. The price for the 1915 edition is \$1.00 and 5 cents for each supplement.

(f) Radio Service Bulletin is sold at 5 cents per copy or annual for 25 cents.

*Correspondence.*—All requests for publications which are distributed free should be addressed to the Commissioner of Navigation and for publications for which there is a charge to the Superintendent of Documents, Government Printing Office.

## STEAMBOAT-INSPECTION SERVICE.

*Principal administrative officials.*—Supervising Inspector General, Chief Clerk.

*General information and duties.*—The Steamboat-Inspection Service is charged with the duty of inspecting vessels, the licensing of the officers of vessels, and the administration of the laws relating to such vessels and their officers for the protection of life and property.

The Supervising Inspector General and the supervising inspectors constitute a board that meets annually at Washington and establishes regulations for carrying out the provisions of the steamboat-inspection laws.

*General publications.*—(a) Laws Governing The Steamboat-Inspection Service. (Form 800). Topics: Inspection; Vessels subject to inspection; Appointment of Supervising Inspector General, supervising inspectors, local inspectors and clerks to local boards; Board of Supervising Inspectors; Inspection of hulls, boilers and machinery; Life-saving equipment and fire apparatus required on vessels; Licensing of officers of vessels; Transportation of passengers and merchandise; Manning of inspected vessels, number of passengers allowable; Carriage of certain dangerous articles prohibited on passenger steamers; fire extinguishers and other fire-fighting equipment required on vessels; Lifeboats and life rafts required on vessels; Penalty clauses; Regulation of commerce and navigation; State regulation of pilots; No discrimination in rates of pilotage; Transportation of passengers and merchandise; Transportation of nitroglycerine and other dangerous articles; Liability of masters, etc., as carriers; An act to regulate the carriage of passengers by sea; Summary trial for certain offenses against navigation laws; Remission of fines, penalties, and forfeitures; Amendatory acts of Congress; Boundary lines of the high seas; Motor-boat act of June 9, 1910; Seaman's act of March 4, 1915.

(b) General Rules and Regulations Prescribed by the Board of Supervising Inspectors, Ocean and Coastwise. (Form 801 A.) Rules governing the inspection of hulls, boilers, and equipments of ocean and coastwise vessels coming under the jurisdiction of the Steamboat-Inspection Service, and relating to licensed officers of such vessels.

(c) General Rules and Regulations Prescribed by the Board of Supervising Inspectors, Great Lakes. (Form 801 B.) Rules governing the inspection of hulls, boilers, and equipments of vessels navigating the Great Lakes and coming under the jurisdiction of the Steamboat-Inspection Service, and relating to licensed officers of such vessels.

(d) General Rules and Regulations Prescribed by the Board of Supervising Inspectors, Lakes other than the Great Lakes, Bays, and Sounds. (Form 801 C.) Rules governing the inspection of hulls, boilers, and equipments of vessels navigating lakes other than the Great Lakes, bays, and sounds, and coming under the jurisdiction of the Steamboat-Inspection Service, and relating to licensed officers of such vessels.

(e) General Rules and Regulations Prescribed by the Board of Supervising Inspectors, Rivers. (Form 801 D.) Rules governing the inspection of hulls, boilers, and equipments of vessels navigating rivers and coming under the jurisdiction of the Steamboat-Inspection Service, and relating to licensed officers of such vessels.

(f) Pilot Rules for Certain Inland Waters of the Atlantic and Pacific Coasts and of the Coast of the Gulf of Mexico. (Form 804.) Act of June 7, 1897. To adopt regulations for preventing collisions; Boundary lines of the high seas; Pilot rules for vessels passing each other; Rules for lights to be carried by various kinds of vessels; Rules prohibiting unnecessary sounding of steam whistle; Motor-boat act of June 9, 1910; Act of September 4, 1890, in regard to collisions at sea; Regulations for tows of seagoing barges within inland waters.

(g) Pilot Rules for the Great Lakes and Their Connecting and Tributary Waters. (Form 808.) Pilot rules for vessels passing each other; Rules for lights to be carried by various kinds of vessels; Rule prohibiting unnecessary sounding of the steam whistle; Act of February 8, 1895, To Regulate navigation on the Great Lakes and their connecting and tributary waters; Motor-boat act of June 9, 1910.

(h) Pilot Rules for the Rivers Whose Waters Flow Into the Gulf of Mexico and Their Tributaries and the Red River of the North. (Form 806.) Pilot rules for vessels passing each other; Rules for lights for various kinds of vessels; Rule prohibiting unnecessary sounding of the steam whistle; Sections of

the Revised Statutes of the United States and acts of Congress relating to the navigation of vessels on the Red River of the North and rivers emptying into the Gulf of Mexico and their tributaries; Motor-boat act of June 9, 1910; Boundary lines of certain inland waters.

*Method of distribution of general publications.*—All of the publications included noted above are distributed free, through office of Steamboat Inspection Service.

*Annual and other periodical publications.*—(a) Annual Report of the Supervising Inspector General, Steamboat Inspection Service, to the Secretary of Commerce, fiscal year. Distributed free.

(b) List of Officers of Merchant Steam, Motor, and Sail vessels Licensed, each fiscal year. (Discontinued.)

*List of publications.*—A list of publications of the Steamboat-Inspection Service available for distribution is published semiannually in the List of Publications of the Department of Commerce available for distribution, and in supplementary list entitled Monthly List of Publications issued by the Department of Commerce.

*Mailing lists.*—Free mailing lists for all of the publications named under *General publications* and *Annual and periodical publications* are maintained, it being the endeavor of this bureau to place on such lists only the names of individuals requiring the publications.

*Maps.*—No maps are published by this service.

*Correspondence.*—Requests for the publications should be addressed to Supervising Inspector General, Steamboat-Inspection Service, Washington, D. C. Copies of the laws, general rules and regulations, and pilot rules can be obtained from boards of local inspectors, Steamboat-Inspection Service, at ports where located.

## PART X.—DEPARTMENT OF LABOR.

(For location of department and bureaus, see page 190.)

*Principal administrative officials.*—Secretary of Labor, Assistant Secretary, Solicitor, Chief Clerk, Disbursing Clerk, Chief of Division of Publications and Supplies, Appointment Clerk, Executive Clerk, Division of Conciliation.

*General information and duties.*—The Secretary of Labor is charged with the duty of fostering, promoting, and developing the welfare of the wage earners of the United States, improving their working conditions, and advancing their opportunities for profitable employment.

He has power under the law to act as mediator and to appoint commissioners of conciliation in labor disputes whenever in his judgment the interests of industrial peace may require it to be done.

He has authority to direct the collecting and collating of full and complete statistics of the conditions of labor and the products and distribution of the products of the same and to call upon other departments in the Government for statistical data and results obtained by them and to collate, arrange, and publish such statistical information so obtained in such manner as to him may seem wise.

His duties also comprise the gathering and publication of information regarding labor interests and labor controversies in this and other countries; the supervision of the administration of the act of Congress providing for the payment of compensation to artisans or laborers of the United States injured in the course of their employment; the supervision of the immigration of aliens, and the enforcement of the laws relating thereto, and to the exclusion of Chinese; the direction of the administration of the naturalization laws; and the direction of the work of investigating all matters pertaining to the welfare of children and child life, and to cause to be published such results of these investigations as he may deem wise and appropriate.

The Assistant Secretary performs such duties as shall be prescribed by the Secretary or may be required by law. He acts as the Secretary of Labor in time of absence of the Secretary.

*Annual and other periodical publications.*—(a) Annual Reports of the Secretary of Labor for 1913, 1914, 1915, 1916, and 1917.

(b) Annual Reports of the Department of Labor (report of the Secretary and reports of the bureaus consolidated) for 1913, 1914, 1915, and 1916.

(c) Annual Report of the Chief, Division of Publications and Supplies, for 1914, 1915, 1916, and 1917.

These are distributed free as long as available.

*List of publications.*—A list of publications of all bureaus is published semi-annually and is distributed free. No monthly list is published.

*Mailing lists.*—Mailing lists are maintained for free distribution of above publications.

*Maps.*—Maps are published only when necessary for use in connection with publications, and then are attached and form a part and are distributed free with other publications.

*Correspondence.*—Requests for above publications should be addressed Chief, Division of Publications and Supplies, Department of Labor, Washington, D. C.

### SOLICITOR FOR THE DEPARTMENT OF LABOR.

*Publications of the solicitor.*—The only publication available for distribution is the Opinions of Solicitor, U. S. Department of Labor, on Workmen's Compensation (under act May 30, 1908), 1 volume, April, 1915. The volume includes topics on the subject of compensation for injured United States employees under the act of May 30, 1908 (35 Stat., 556), as follows: Employment by the United States of artisan or laborer; Manufacturing establishments; Arsenals; Navy yards; River and harbor works and fortifications; Hazardous work in connection with the Reclamation Service; Isthmian Canal Commission;

Forestry Service; Employment excluded by the act; Legal definitions, decisions and phrases; Persons entitled to compensation; Medical examination, claims; Opinions of Attorney General; Decisions of the comptroller, etc.

This publication will be available for free distribution until the present supply is exhausted, and application should be made to the Solicitor for the Department of Labor, Washington, D. C.

The compensation act of May 30, 1908, has been superseded by the act of September 7, 1916 (39 Stat. 742), which lodges the jurisdiction of all questions concerning compensation to injured United States employees in the United States Employees Compensation Commission, which see page 151.

## UNITED STATES EMPLOYMENT SERVICE.

*Principal administrative officials.*—Director, two Assistant Directors, and Chief Clerk.

*General information and duties.*—The purpose of the United States Employment Service is to foster, promote, and develop the welfare of the wage earners of the United States by so conserving and distributing their industrial activities as to improve their working conditions and advance their opportunities for profitable employment, in harmony with the general good, with the necessities of war, with the just interests of employers, and with the development in practice of the recognized principle of a common responsibility for production and a common interest in distribution.

*General publications.*—The only publication issued is the "United States Employment Service Bulletin," which is the official organ of the United States Employment Service, and is published every Tuesday (weekly) for the information of the United States Employment Service and its field force and branches, cooperating State, county, and municipal employment services and other organizations interested in employment matters. It contains information as to the labor mobilizing and distributing work of the United States Employment Service; instructions to the field service; reports as to shortages and surpluses of labor in various localities; locations of branch employment offices, etc.

*Method of distribution.*—Copies are free. Circulation restricted to offices and employees of the United States Employment Service; other public employment services, State, county, and municipal employment offices and officers and organizations and individuals actually interested in employment matters, as employers, etc.

*Mailing list.*—Free mailing lists are maintained.

*Correspondence.*—Address Director, U. S. Employment Service, Department of Labor, Washington, D. C.

## BUREAU OF IMMIGRATION.

*Principal administrative officials.*—Commissioner General of Immigration; Assistant Commissioner General; Commissioners of Immigration: Ellis Island, N. Y., Boston, Mass., Gloucester, N. J., Baltimore, Md., Montreal, Province of Quebec, San Juan, P. R., New Orleans, La., Seattle, Wash., Angel Island, San Francisco, Cal.

*General information and duties.*—The Bureau of Immigration is charged with the administration of the laws relating to immigration and of the Chinese-exclusion laws. It supervises all expenditures under the appropriation for "Expenses of regulating immigration." It causes alleged violations of the immigration, Chinese-exclusion, and alien contract-labor laws to be investigated, and when prosecution is deemed advisable submits evidence for that purpose to the proper United States district attorney.

*General publications.*—Bulletins are issued on immigration statistics, immigration laws, and rules, treaty laws, rules governing the admission of Chinese, and agricultural opportunities in different parts of the country. Distributed free as long as available.

*Annual and other periodical publications.*—(a) Annual Report by the Commissioner General of Immigration. (b) Monthly statement for press and individuals directly concerned, giving comparative statistics of immigration and the inward and outward passenger movements.

*List of publications.*—Printed in the Department of Labor list.

*Mailing list.*—Maintained for above publications.

*Correspondence.*—Address Commissioner General of Immigration, Washington, D. C.

## BUREAU OF NATURALIZATION.

*Principal administrative officials.*—Commissioner of Naturalization; Deputy Commissioner of Naturalization; Chief Naturalization Examiners, 11 located in the following cities: Boston, Mass., New York, N. Y., Philadelphia, Pa., Washington, D. C., Pittsburgh, Pa., Chicago, Ill., St. Paul, Minn., St. Louis, Mo., Seattle, Wash., San Francisco, Cal., Denver, Colo.

*General information and duties.*—The act approved March 4, 1913, creating the Department of Labor, provided a Bureau of Naturalization, and that the Commissioner of Naturalization, or, in his absence, the Deputy Commissioner of Naturalization, shall be the administrative officer in charge of the Bureau of Naturalization and of the administration of the naturalization laws under the immediate direction of the Secretary of Labor. Under the provisions of the act of June 29, 1906, naturalization jurisdiction was conferred upon approximately 3,500 United States and State courts. The duties of the Bureau of Naturalization are to supervise the work of these courts in naturalization matters, to require an accounting from the clerks of courts for all naturalization fees collected by them, examine and audit these accounts, deposit them in the Treasury of the United States through the disbursing clerk of the department, and render an accounting therefor quarterly to the Auditor for the State and Other Departments, to conduct all correspondence relating to naturalization, and, through its field officers located in various cities of the United States, to investigate the qualifications of the candidates for citizenship and represent the Government at the hearings of petitions for naturalization. In its administration of the naturalization laws the bureau obtains the cooperation of the public-school authorities throughout the United States, receives reports therefrom of courses in citizenship instruction, and, acting as a clearing house of information on civic instruction, it disseminates the information received throughout the public-school system. It stimulates the preparation of candidates for citizenship for their new responsibilities by bringing them into contact at the earliest moment with the Americanizing influences of the public-school system, and thereby contributes to the elevation of citizenship standards. In the archives of the bureau are filed duplicates of all certificates of naturalization granted since September 26, 1906, as well as the preliminary papers of all candidates for citizenship filed since that date, averaging an annual receipt of approximately 450,000 naturalization papers.

*General publications.*—(a) Naturalization laws and regulations; (b) proceedings of the naturalization reception, Philadelphia, Pa., 1915; (c) reception, Washington, D. C., 1916; (d) outline of course in citizenship for foreign and native born.

*Annual reports.*—Annual Reports of the Commissioner of Naturalization.

*Method of distribution.*—All publications are distributed free.

*Mailing lists.*—Free mailing lists are maintained for those interested.

*Correspondence.*—Address Commissioner of Naturalization, Washington, D. C.

## BUREAU OF LABOR STATISTICS.

*Principal administrative officials.*—Commissioner of Labor Statistics, Chief Statistician.

*General information and duties.*—The Bureau of Labor Statistics is charged with the duty of acquiring and diffusing among the people of the United States useful information on subjects connected with labor in the most general and comprehensive sense of that word, and especially upon its relations to capital, the hours of labor, the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity.

It is especially charged to investigate the causes of and facts relating to controversies and disputes between employers and employees as they may occur, and which may happen to interfere with the welfare of the people of the several States.

It is also authorized, by act of March 2, 1895, to publish a bulletin on the condition of labor in this and other countries, condensations of State and foreign labor reports, facts as to conditions of employment, and such other facts as may be deemed of value to the industrial interests of the United States. This bulletin is issued in a number of series, each dealing with a single subject or closely related group of subjects, and the bulletin is published at irregular intervals as matter becomes available for publication.

By the act to provide a government for the Territory of Hawaii, as amended, it is made the duty of the bureau to collect and present in quinquennial reports statistical details relating to all departments of labor in the Territory of Hawaii, especially those statistics which relate to the commercial, industrial, social, educational, and sanitary condition of the laboring classes.

*General publications.*—Prior to July, 1912, the bureau published annual and special reports and a bimonthly bulletin. Since July, 1912, the publications of the bureau, other than the annual reports and its periodical publications, have been printed as bulletins issued at irregular intervals. Each number contains matter devoted to one of a series and also carry consecutive whole numbers, beginning with No. 101.

The titles of the reports and the titles of articles contained in bulletins are shown in the following list: Accident insurance; Accidents and prevention; Acetate of lead and other poisons; Agreements between employers and employees; Agriculture implement industry; Anthracite coal; Apprenticeship; Arbitration; Bakers, wages, etc.; Benefit and retirement systems; Bethlehem strike; Blacklisting; Boarding houses; Bonus systems; Boot and shoe industry; Boycotting; Brass industry; Brewing industry; Brickmaking; Broom manufacture; Buck Stove & Range case; Building and loan associations; Button manufacture; Calsson disease of "Bends"; Canning industry; Carbon monoxide; Carpet industry; Children in industry; Chlorine as poison; Cigar industry; Clothing industry; Coal mining; Company stores; Compensation for injuries; Conciliation and arbitration; Conspiracy; Convict labor; Coolie labor; Cooperation; Copper mining; Cost of living; Cost of production; Cotton industry; Danbury Hatters case; Dangerous occupations; Death rates in industry; Decisions of courts on labor; Domestic service; Dusty occupations; Eight-hour day; Employers' liability; Employment offices; Employment (regularity); Factory inspection; Factory legislation; Fatigue in industry; Funeral benefits; Furniture industry; Glass industry; Government ownership; Hawaii (labor); Holidays; Home industry; Hook worm disease; Hospital service; Hours of labor; Housing; Illiteracy; Immigrant labor; Industrial education; Industrial poisoning; Iron and steel industry; Jewelry industry; Labor conditions; Labor legislation; Labor organizations; Laundries; Lawrence strike; Lead poisoning; Liquor problem; Living conditions; Lockouts and strikes; Manufacturers' statistics; Match industry; Mediation and arbitration; Maternity insurance; Mine labor; Mine strike, Westmoreland County; Minimum wage; Municipal ownership; Negroes; Night work; Occupational diseases; Old age pensions; Overtime; Padrone system; Paper industry; Pension funds; Peonage; Phosphorous poison; Printing trade; Profit sharing; Protection of workers; Public utilities; Purchasing power; Railroad labor; Retail prices; Rubber industry; Sanitation (industrial); Sickness insurance; Slums; Speeding up; Strikes and lockouts; Sunday work; Sweating system; Telegraph companies; Tobacco industries; Tuberculosis; Unemployment; Union wages; Vocational guidance; Wages; Welfare work; Westmoreland strike; Workmen's insurance; Zinc poisoning.

*Method of distribution of general publications.*—All publications of the bureau are distributed free.

*Annual and other periodical publications.*—Annual reports, presenting the results of the bureau's investigations and studies, were published from the beginning to 1910, inclusive, 25 such annual reports having been issued. Special reports, similar in character, were published from 1889 to 1905, 12 such reports having been issued. The subjects of all these reports are given in the list of publications. Miscellaneous reports, published by the bureau, are also given in list. A bi-monthly bulletin was issued by the bureau from November, 1895, to May, 1912, 100 numbers having been issued. At present the only periodical publication of the bureau is the Monthly Review, published since July, 1915, and an index is contained in the third volume, December, 1916, issue.

*List of publications.*—A list of publications is issued from time to time and is available for distribution. A list of the more recent publications is contained in the Monthly Review.

*Indexes to publications.*—The only separate index to publications which the bureau has issued is Bulletin 174, constituting a subject index from the beginning down to May 1, 1915. This bulletin is available for free distribution.

*Mailing lists.*—Free mailing lists for all publications are maintained.

*Correspondence.*—Requests for publications should be addressed to the Commissioner of Labor Statistics.

## CHILDREN'S BUREAU.

*Principal administrative officials.*—Chief of Children's Bureau, Assistant Chief, Director Child Labor Law Division, Director Hygiene Division, Director Social Service Division, Director Statistical Division, Director Industrial Division, Director Publicity Division.

*General information and duties.*—The act establishing the bureau provides that it shall investigate and report upon all matters pertaining to the welfare of children and child life among all classes of our people, and shall especially investigate the questions of infant mortality, the birth rate, orphanage, juvenile courts, desertion, dangerous occupations, accidents, and diseases of children, employment, and legislation affecting children in the several States and Territories. The bureau is also empowered to publish the results of these investigations in such manner and to such extent as may be prescribed by the Secretary of Labor. The bureau also enforces the United States Child Labor Law.

*General publications.*—Reports are issued from time to time on the various subjects within the field of the bureau. Among them are series of reports on infant mortality, discussing especially the economic aspects; pamphlets addressed to the individual mothers on the care of children; reports on laws affecting children; special studies of child welfare in the warring countries and on care of dependents of enlisted men in Canada, together with other studies in the fields of the respective divisions enumerated above.

*Method of distribution of general publications.*—Distributed free.

*Annual and other periodical publications.*—Annual Report of the Chief.

*List of publications.*—Multigraphed list of publications available for distribution. List also printed in each publication in the Children's Bureau.

*Mailing list.*—Free mailing lists are maintained: (1) General mailing list; (2) Special subjects, e. g., child care, child labor; (3) Miscellaneous.

*Correspondence.*—Address the Chief of Children's Bureau, Washington, D. C.

## NATIONAL WAR LABOR BOARD.

*Principal administrative officials.*—The board consists of 12 members, appointed by the Secretary of Labor, five representatives of the employers, five representatives of labor, and two representatives of the public.

*General information and duties.*—The National War Labor Board was organized in accordance with a report dated March 29, 1918, to the Secretary of Labor by the War Labor Conference. The functions and powers of the board are as follows: (a) To bring about a settlement by mediation and conciliation of every controversy arising between employers and workers in the field of production necessary for the effective conduct of the war; (b) to do the same thing in similar controversies in other fields of national activity, delays, and obstructions in which may, in the opinion of the board, affect detrimentally such production; (c) to provide such machinery by direct appointment or otherwise for selection of committees or boards to sit in various parts of the country where controversies arise, to secure settlement by local mediation and conciliation; and (d) to summon the parties to the controversy for hearing and action by the board, in case of failure to secure settlement by local mediation and conciliation. No cognizance of any controversy is taken where there is by agreement or Federal law a means of settlement which has not been invoked.

*Publications.*—As the board has been but recently organized, it has not issued any publications. The general outline and scope of activities of the board are given in the United States Employment Service Bulletin for April 9, 1918.

*Correspondence.*—Requests for information should be addressed to Secretary, National War Labor Board, Department of Labor, Washington, D. C.

## BUREAU OF HOUSING.

*Principal administrative officials.*—Director, Assistant to Director, Secretary, and Chief Clerk.

*General information and duties.*—The Bureau of Housing is charged with the construction of buildings for housing employees at munition plants and for the clerical forces in the District of Columbia when accommodations for such employees are not adequately provided by the existing housing facilities.

*Correspondence.*—Requests for information should be addressed to Bureau of Housing, Department of Labor, Washington, D. C.



## PART XI.—INDEPENDENT ESTABLISHMENTS.

(For location, see page 191.)

### LIBRARY OF CONGRESS.

*Principal administrative officials.*—Librarian of Congress; Chief Assistant Librarian; Chief Clerk; Secretary; Superintendent of Reading Room; Reading Room for the Blind; Representatives' Reading Room; Chiefs of Division: Bibliography, Binding, Card Index, Catalogue, Classification Section, Documents, Legislative Reference, Mail and Delivery, Manuscripts; Maps and Charts, Music, Order, Periodical, Prints, Semitic, Slavic, Smithsonian; Law Librarian; Copyright Office: Register, Assistant Register; Building and Grounds: Superintendent, Chief Clerk, Chief Engineer, Electrician, Captain of Watch.

*General information and duties.*—The Library of Congress was established in 1800, destroyed in 1814 by the burning of the Capitol, afterwards replenished by the purchase by Congress of the library of ex-President Jefferson, 6,760 volumes (cost, \$23,950); in 1851, 35,000 volumes destroyed by fire; in 1852, partially replenished by an appropriation of \$75,000; increased (1) by regular appropriations by Congress; (2) by deposits under the copyright law; (3) by gifts and exchanges; (4) by the exchanges of the Smithsonian Institution, the library of which (40,000 volumes) was, in 1866, deposited in the Library of Congress with the stipulation that future accessions should follow it. One hundred sets of Government publications are at the disposal of the Librarian of Congress for exchange, through the Smithsonian, with foreign Governments, and from this source are received about 12,000 volumes annually.

*Number of books.*—The collection is now the largest on the Western Hemisphere and the third in the world. It comprised at the end of the fiscal year (June 30, 1917) about 2,537,922 printed books and pamphlets (including the law library of 180,608 volumes, which, while a division of the Library of Congress, still remains at the Capitol), 158,480 maps and charts, 795,749 pieces of music, and 397,945 photographs, prints, engravings, and lithographs. It includes various special collections eminent in their respective fields.

*Manuscripts.*—The collection of manuscripts, touching every period of American history, includes the papers of nine of the Presidents and the records of the Continental Congress, with numerous other important groups—political, military, naval, and commercial.

*Smithsonian.*—The Smithsonian deposit is rich in scientific works, and includes the largest assemblage of the transactions of learned societies which exists in this country.

*Building.*—In 1897 the main collection was removed from the Capitol to the building erected for it under the acts of Congress approved April 15, 1886; October 2, 1888, and March 2, 1889, at a cost of \$6,347,000 (limit by law, \$8,500,000), exclusive of the land, which cost \$585,000. The building occupies  $\frac{3}{4}$  acres, upon a site 10 acres in extent, at a distance of 1,270 feet east of the Capitol, and is the largest library building in the world. In the decorations some 40 painters and sculptors are represented—all American citizens. The floor space is 430,255 square feet, or nearly 10 acres.

*Bookstacks.*—The bookstacks, including the new stack built over the southeast interior court, contain a total of about 100 miles of shelving, with capacity for 3,540,000 octavo volumes of books and 84,000 volumes of newspapers.

*Librarian.*—The Librarian of Congress and the Superintendent of the Library Building and Grounds are now appointed by the President of the United States, by and with the advice and consent of the Senate (act of 1897). The employees of the library proper are appointed by the librarian and those of the building and grounds by the superintendent, under the act of 1897, which provides that they shall be appointed "solely with reference to their fitness for their particular duties."

*Interlibrary loans.*—While not a lending library, but primarily and essentially a reference library, the Library of Congress maintains an interlibrary

system, by which special service is rendered to scholarship by the lending of books to other libraries for the use of investigators engaged in serious research which it is not within the power or duty of the library in question to supply.

**Publications.**—The publications issued by the library are numerous, and include:

Annual reports, showing the progress of the library.

Bibliographies, exhaustive statements of the literature of certain subjects, e. g., Philippine Islands.

Reference lists, containing principal references to questions of current interest, e. g., trusts, subsidies, railroads.

Catalogues, lists of special collections in the Library of Congress, e. g., Hubbard collection of engravings, Thacher collection of incunabula, Washington MSS., John Paul Jones MSS., maps of America, newspapers.

Special publications on library methods, e. g., catalogue rules, classification, etc.

**Legislative reference.**—A small annual lump-sum appropriation, first available July 1, 1914, provides for a certain amount of research in the library for "data for or bearing upon legislation" needed by Congress or by its committees or Members, and for translations, digests, and compilations incorporating the results of this research.

**Copyright Office.**—The Copyright Office is a distinct division of the Library of Congress. It is under the immediate charge of the Register of Copyrights, who, by the act of March 4, 1909, is authorized, "under the direction and supervision of the Librarian of Congress," to perform all the duties relating to copyrights. Copyright registration was transferred to the Librarian of Congress by the act of July 8, 1870. Of most articles copyrighted two copies, and of some one copy, must be deposited to perfect copyright. A selection of these is placed in the library collections. Books, maps, musical compositions, photographs, periodicals, and other articles so deposited numbered, during the fiscal year 1916-17, 195,627 articles. Copyright fees applied and paid into the Treasury for the fiscal year 1916-17 amounted to \$110,077.40. Recent publications are: Dramatic compositions copyrighted in the United States, 1870-1916; decisions of the United States courts involving copyright, 1914-1917.

**Hours.**—On week days (except legal holidays) the library building, Senate and House reading rooms, main reading room, periodical reading room, and law library are open from 9 a. m. to 10 p. m.; other parts of the library from 9 a. m. to 4.30 p. m. On Sundays and certain legal holidays the building, main reading room, periodical reading room, division of prints, music division, and maps division are open from 2 to 10 p. m., the librarian's office and the office of the chief clerk from 2 to 6 p. m.

**General publications.**—The list of topics of bibliographies is as follows:

Agriculture (classification).  
 Alaska (list of maps).  
 Almanacs (check list of American).  
 America (list of maps). *See also* Kohl collection.  
 American doctoral dissertations (list).  
 American newspapers (check list).  
 Anglo-Saxon interests (reference list).  
 Animal industry (classification).  
 Anthropology (classification).  
 Arbitration (industrial). (Reference list.)  
 Arbitration (international). (Reference list.)  
 Argentine law (guide).  
 Atlases (list of geographical).  
 Banks (first and second of the United States). (Reference list.)  
 Bibliography (classification).  
 Books for a popular library (catalogue of 8,000).  
 Books in embossed type for the blind.  
 Boycotts and injunctions in labor disputes (reference list).  
 Brazilian law (guide).  
 British tariff. *See* Tariff.

Cabinets in England and America (reference list).  
 Canada (reciprocity). (Reference list.)  
 Canals (interoceanic). (Reference list.)  
 Capital punishment (reference list).  
 Cards (catalogue). (Handbook.)  
 Cartography.  
 Cartularies (reference list).  
 Cataloguing (cooperative). (Bibliography.)  
 Catalogue cards (handbook).  
 Catalogue rules.  
 Child labor (reference list).  
 Chilean law (guide).  
 Chinese immigration (reference list).  
 Civil Service pensions.  
 Classification of books.  
 Colonization (reference list).  
 Commerce. *See* Federal control of commerce and corporations.  
 Commission government (reference list).  
 Conservation of natural resources (reference list).

- Continental Congress journals.  
 Continental law. *See* International law.  
 Copyright.  
 Corporations. *See* Federal control of commerce and corporations.  
 Cost of living and prices (reference list).  
 Crittenden papers (calendar).  
 Deep waterways (reference list).  
 District of Columbia (list of maps).  
 District of Columbia libraries (handbook).  
 Dramatic music (catalogue).  
 Early music (before 1800). Catalogue.  
 Economics (classification).  
 Education (classification).  
 Eight-hour working day (reference list).  
 Eighteenth century American newspapers (checklist).  
 Election (Corrupt practices). (Reference list.)  
 Embargoes of the United States.  
 Embossed type (books for blind).  
 Employers' liability and workmen's compensation (reference list).  
 Engravings. *See* Hubbard collection.  
 Europe and International politics (reference list).  
 Far East (reference list).  
 Federal control of commerce and corporations (reference list).  
 Federal Statutes (index analysis).  
 Fine Arts (classification).  
 Folklore (classification).  
 Foreign government (list of maps).  
 Foreign law (guides to).  
 Foreign newspapers (checklist).  
 Foreign tariff (reference list). *See also* Tariff.  
 Foster, S. G. First editions of music (catalogue).  
 Fourteenth and Fifteenth Amendments (reference list).  
 French alliance in American Revolution (reference list).  
 Franklin papers (list).  
 Genealogies (catalogue of American and English).  
 General works (classification).  
 Geography (classification).  
 Geography, American (classification).  
 German law (guide).  
 Government ownership of railroads (reference list).  
 "Hail Columbia" (report).  
 Hawaii (reference list).  
 History, American (classification).  
 History (auxiliary sciences). (Classification.)  
 History (universal and Old World). (Classification.)  
 History of the Library of Congress.  
 Hubbard collection of engravings.  
 Immigration (reference list). *See also* Chinese immigration.  
 Impeachment (reference list).  
 Income and inheritance tax (reference list).  
 Incunabula. *See* Thacher collection.  
 Inheritance tax. *See* Income tax.  
 Initiative (referendum and recall). (Reference list.)  
 Injunctions in labor disputes. *See* Boycotts.  
 Insurance (Government regulation). (Reference list.)  
 International and Continental law (bibliography).  
 Japanese prints.  
 John Paul Jones manuscripts (calendar).  
 Kohl collection. List of maps relating to America.  
 Labor and strikes (reference list).  
 Labor disputes. *See* Boycotts.  
 Language (classification).  
 Law (headings for a subject catalogue). *See also* Foreign law (guides).  
 "The Library of Congress."  
 Library science (classification).  
 Lincolniana.  
 Literature (classification).  
 Lowery collection. List of maps of the Spanish possessions within the present limits of the United States, 1502-1820.  
 McDowell, Edward. First editions of music. (Catalogue.)  
 Manners and customs (classification).  
 Manuscript collections in the Library of Congress.  
 Manuscripts in Library of Congress (handbook).  
 Manuscripts (care).  
 Maps.  
 Maps (cataloguing).  
 Medicine (classification).  
 Mercantile Marine subsidies. *See* Subsidies.  
 Military science (classification).  
 Monetary question (reference list).  
 Monroe papers (list).  
 Music (classification).  
 Naval records in American Revolution (calendar).  
 Naval science (classification).  
 Negro question (reference list).  
 Negro suffrage. *See* Fourteenth and Fifteenth Amendments.  
 Opera librettos (before 1800). Catalogue.  
 Orchestral music (catalogue).  
 Parcel post (reference list).  
 Periodicals in District of Columbia (union list).  
 Philippine Islands (list of maps).  
 Philippine Islands (reference list).  
 Philippines (occupation by Americans). (Reference list.)  
 Philosophy (classification).  
 Pierce manuscripts (calendar).

Plant industry (classification).  
 Political parties in the United States (reference list).  
 Political science (classification).  
 Polygraphy (classification).  
 Popular election of Senators. *See* Senators.  
 Porto Rico (reference list).  
 Portrait index.  
 Postal savings bank (reference list).  
 Prices. *See* Cost of living.  
 Prison labor (reference list).  
 Proportional representation (reference list).  
 Railroads (reference list).  
 Railroads (valuation and capitalization). (Reference list.)  
 Recall. *See* Initiative.  
 Reciprocity (reference list).  
 Reciprocity with Canada (reference list).  
 Referendum. *See* Initiative.  
 Science (classification).  
 Senators (popular election). (Reference list.)  
 Social groups (classification).  
 Social sciences (classification).  
 Spanish law (guide).  
 Sports and games (classification).  
 "Star-Spangled Banner" (report).  
 Strikes. *See* Labor. *See also* Boycotts.

Subject headings used in dictionary catalogues of the Library of Congress.  
 Subsidies (mercantile marine). (Reference list.)  
 Sugar (economic aspects). (Reference list).  
 Supreme Court (reference list).  
 Tariff (reference list).  
 Tariff in foreign countries (reference list).  
 Technology (classification).  
 Thacher collection of incunabula.  
 Theology (classification).  
 Trusts (reference list).  
 United States at war: Organization and literature (reference list).  
 Van Buren papers (calendar).  
 Vernon-Wager manuscripts (list).  
 Virginia Company of London (court book records).  
 Washington, D. C. (list of maps).  
 Washington correspondence with Continental Congress (calendar).  
 Washington correspondence with the officers (calendar).  
 Washington manuscripts (calendar).  
 Water rights (reference list).  
 Waterways. *See* Deep waterways.  
 Wool (tariff). (Reference list.)  
 Workingmen's insurance (reference list).  
 Workmen's compensation. *See* Employer's liability.

*Method of distribution of general publications.*—With a few exceptions, the Library of Congress limits the free distribution of its publications to libraries and institutions; individuals may, however, obtain copies by purchase from the Superintendent of Documents, Government Printing Office, at merely nominal prices.

*Annual and other periodical publications.*—(a) Annual Report of the Librarian of Congress. The Annual Report summarizes the general activities of the library—the appropriations and expenditures and the work of the several divisions including the Copyright Office, special attention being given to new undertakings. Free distribution to libraries; copies also sold by the Superintendent of Documents.

(b) Monthly List of State Publications. This is a periodical list of current documents received from the States, territories, and insular possessions of the United States. Copies sent free to State offices and contributing bureaus as acknowledgement of material received, and one copy of each issue is deposited free of charge in each State library. The Superintendent of Documents has charge of the subscription lists for the sale of the publication at 50 cents a year.

(c) List of American Doctoral Dissertations. (Annual.) An annual list of every thesis printed either separately or in another publication, during the calendar year beginning with 1912, acquired, classified, and catalogued by the Library of Congress.

*List of publications.*—A list of Library of Congress publications is published annually. A monthly list is not published.

*Mailing lists.*—Free mailing lists are maintained for the distribution of Library of Congress publications to other libraries, institutions, and learned societies.

*Maps.*—The list of maps published by the library are enumerated under "General Publications."

*Correspondence.*—Requests for publications should be addressed to the Librarian of Congress. All requests for the purchase of publications should, however, be made direct to the Superintendent of Documents, Government Printing Office, Washington, D. C. Remittance should accompany the request.

## GOVERNMENT PRINTING OFFICE.

*Principal administrative officials.*—Public Printer, Deputy Public Printer, Chief Clerk, Purchasing Agent, Accountant, Congressional Record Clerk, Superintendent of Work, Assistant Superintendent of Work (Night), Foreman of Printing and Assistant Superintendent of Work (Day), Superintendent of Documents.

*General information and duties.*—The Public Printer has charge of and manages the Government Printing Office. Directly or through his principal officers he makes all purchases, disburses all money, appoints all officers and employees, wraps, mails, and dispatches publications for public distribution, and exercises general supervision over the affairs of the office.

The Deputy Public Printer acts as chairman of boards to examine and report on paper and material purchased, and also of a board of condemnation. He has supervision over the buildings and property and the care of the stores, and performs such other duties as are required of him by the Public Printer. In case of the death, resignation, absence, or sickness of the Public Printer he performs the duties of the Public Printer.

The Chief Clerk has direct charge of the personnel of the office, is charged with the detail of all matters in connection with appointments, promotions, or transfers, and has charge of the general correspondence and care of the files.

The Purchasing Agent has direct charge of all purchases; prepares all schedules of material and supplies and all proposals, and receives the bids; supervises the work of drawing contracts and orders for paper, material, machinery, and supplies; and acts as the legal adviser of the Public Printer in matters relating to the public printing and binding.

The Accountant has charge of the keeping of the accounts of the Public Printer with the Treasury Department, of the accounts with the several allotments of the appropriation, of the time of employees, of the property records, prepares for the signature of the Public Printer pay rolls and vouchers requiring the payment of money, renders bills for work done, and keeps all other accounts.

The Congressional Record Clerk has charge of the Congressional Record at the Capitol, and acts as the Public Printer's representative in furnishing information and estimates to Senators, Representatives, and Delegates.

The Superintendent of Work has direct charge of all the manufacturing divisions of the office.

The Assistant Superintendent of Work (night) has immediate charge of the manufacturing divisions at night.

The Foreman of Printing and Assistant Superintendent of Work (day) has immediate charge of the composing and foundry sections and branch printing offices. He also assists the Superintendent of Work in the supervision of the manufacturing divisions during the day.

The Superintendent of Documents has general supervision over the distribution of all public documents except those printed for the use of the two Houses of Congress and for the executive departments. He is required to prepare a comprehensive index of public documents, a consolidated index of congressional documents, and a monthly catalogue. He is authorized to sell at cost any public document in his charge the distribution of which is not specifically directed.

A complete reference library of Government documents is maintained in the division of the Superintendent of Documents.

*General publications.*—Style Book, Type Book, The Making of a Book, Monotype Manual, Monotype Faces, Bill Style Book.

*Method of distribution of general publications.*—Distributed free only in very small quantities, except the Style Book, which is sold by the Superintendent of Documents at 15 cents a copy, paper bound, or 30 cents a copy, cloth bound.

*Annual and other periodical publications.*—Annual Report of the Public Printer. Detailed report of the various operations of the Government Printing Office, including itemized statements of all moneys expended, amount of work performed, etc., during the fiscal year ending June 30. Distributed free in small quantities from the office of the Public Printer.

*Correspondence.*—Requests for the free publications should be addressed to Chief Clerk, Government Printing Office, Washington, D. C. Requests for the Style Book should be addressed to Superintendent of Documents accompanied by remittance.

## SUPERINTENDENT OF DOCUMENTS.

*General publications.*—(a) Check List of United States Public Documents, 1789-1909. Third edition. A list of congressional and departmental publications. This records the first systematic effort to include within the limits of one publication an approximately complete check list of all public documents issued by the United States Government during the first century and a quarter of its history. It claims to be only a check list and not a catalogue. Price, \$1.50 per copy.

(b) New Classes Assigned in the Public Documents Library, January 1, 1910-October 31, 1913. Bulletin 15. This bulletin gives information as to the classification numbers assigned in the Public Documents Library to new series of publications issued by the United States Government from January 1, 1910, to October 31, 1913. The classification numbers are in continuation of those printed in the Check List of United States Public Documents, 1789-1909. Price, 5 cents per copy.

(c) Outline of Revised Classification for Publications of the Interstate Commerce Commission, as adopted by the Public Documents Library, December, 1914. Bulletin 17. This classification supersedes that given in the Check List of United States Public Documents, 1789-1909, and in Bulletin 15. Price, 5 cents per copy.

(d) Author Headings for United States Public Documents as Used in the Official Catalogues of the Superintendent of Documents. 3d edition, March 4, 1915. Bulletin 18. Price, 10 cents per copy.

(e) List of Publications of the Agriculture Department, 1862-1902, with Analytical Index. Price, 35 cents per copy.

(f) List of United States Public Documents and Reports Relating to the Construction of the New Navy, also References to the Debates in Congress on the Subject, 1880-1901. Price, 5 cents per copy.

(g) Tables and Index, Congressional Documents, 15th-52d Congress, 1817-1893. Out of print.

*Method of distribution of general publications.*—The publications referred to above are in some cases available free to public, school, and college libraries, and are for sale to all other applicants at the prices mentioned. Remittance should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C.

*Annual and other periodical publications.*—(a) Annual Report of the Superintendent of Documents. Administrative report of the superintendent, including an itemized statement of publications sold during the fiscal year ending June 30.

(b) Document Catalogue. This is the "Comprehensive Index," published at the end of each Congress. It undertakes to list everything published by any branch of the Government. It is a straight dictionary catalogue without any sort of complications, and being from beginning to end in one alphabet, there is no occasion for indexes. Document Catalogues for the period from the 53d to the 62d Congresses, inclusive, have been issued. Number 12 for the 63d Congress is now (April, 1918) ready for the press.

(c) Document Index. This is the Consolidated Index. Its publication began with the Fifty-fourth Congress, first session, and it has been issued following each session of Congress. It lists only the numbered documents and reports published by direct order of Congress, but these it treats very thoroughly. The titles may be found under their subjects arranged in alphabetical order in the general alphabet, and also in like order under the names of the committees from which they were reported, and again under the names of the Senators or Representatives by whom they were presented. They appear also in numerical lists. At the back of the book is a schedule of the volumes of numbered congressional documents and reports.

(d) Monthly Catalogue of United States Public Documents. This series was started with the issue for January, 1895, since which time it has been printed monthly. It shows the documents printed during the preceding month, where obtainable, and the price thereof. Beginning with the fiscal year July, 1909-June, 1910, an annual index to the Monthly Catalogue has been printed for each fiscal year. Prior to July, 1909, the indexes were published irregularly.

The publications referred to under "Distribution" are, in some cases, free to public, school, and college libraries, and are for sale to all other applicants. The Monthly Catalogue is sold on subscription at \$1.10 per year (including

index). Remittance should be made direct to the Superintendent of Documents, Government Printing Office, Washington, D. C.

In addition to the above the Superintendent of Documents has printed a list of the following Government periodicals issued by the departments and bureaus: Accident Bulletin (R. R.) (quarterly); Agricultural Department List, Bulletin (monthly); Alaska R. R. Record (weekly); Army List and Directory (monthly)\*; Catalogue of Copyright Entries (weekly and monthly); Climatological Data by States (monthly); Commerce Reports (daily); Congressional Record (daily); Customs Appeals (quarterly); Employment Service Bulletin (weekly); Experiment Station Record (monthly); Experts of Breadstuffs, etc. (monthly); Federal Reserve Bulletin (monthly); Immigration Bulletin (monthly); Imported Merchandise, Duties, etc. (quarterly); Interstate Commerce Decisions (irregular); Journal of Agricultural Research (weekly); Labor Statistics Bureau Review (monthly); Land Decisions (irregular); Laws (copies of laws) (as issued); Catalogue of U. S. Public Documents (monthly); Monthly Crop Report; Summary of Foreign Commerce (monthly); Weather and Crop Bulletin (weekly); Naval Medical Bulletin (quarterly); Navy and Marine Corps List and Directory (monthly)\*; Official Gazette of Patent Office (weekly); Pan-American Union Bulletin (monthly); Panama Canal Record (weekly); Patent Office Decisions (weekly); Pension Decisions (irregularly); Postal Guide (annual and monthly supplements); Public Health Reports (weekly); Pilot Charts (monthly); Radio Service Bulletin (monthly); Reappraisal of Merchandise (weekly); Reclamation Record (monthly); Schedule of Steamers (monthly)\*; Service and Regulatory Announcements (monthly); Snow and Ice Bulletin (weekly in winter); Standards Bureau Bulletin (quarterly); State Publications (list) (monthly); Trade Marks (weekly); Treasury Decisions (weekly); War Trade Board Journal; Weather Maps (daily); Weather Review (monthly); Weekly News Letter.

*List of publications.*—The 44 Price Lists issued by the Superintendent of Documents are furnished free of charge. The following is a partial list of topics treated in the publications for sale at his office: Agricultural credit; Alaska; Alfalfa; American history; Animal industry; Anthropology; Arbitration (international); Arbitration (labor); Army; Astronomy; Aviation; Banking; Biography; Birds; Births; Butter; Canal Zone; Canning; Census; Chemistry; Child study; Chinese; Citizenship; Citrus culture; Civil War; Coal; Cold storage; Commerce; Concrete; Constitution of United States; Cooking; Cost of living; Cotton culture; Cotton trade; Crime; Cuba; Dairying; Diplomacy; District of Columbia; Drainage; Drugs; Education; Eight-hour law; Elections; Electricity; Employers' liability; Engineering; Enrollment of aliens; Espionage; Explosives; Farm equipment; Farm management; Finance; Fishes; Floods; Food control; Foods and cooking; Foreign relations; Foreign trade; Forestry; Fruits; Fuel; Game; Gardening; Gas; Gasoline; Geological Survey; Government periodicals; Grain; Grain standards; Guam; Hawaii; Health; Horses; Illiteracy; Immigration; Indians; Insects; Insular possessions; Insurance; International law; Interstate Commerce Commission; Iron mines; Iron ore; Irrigation; Japanese; Labor; Latin America; Latitude; Laws; Leveling; Light; Liquors and prohibition; Lobsters; Longitude; Lumber; Magnetism; Manufactures; Maps; Marine Corps; Marketing; Measures; Meat; Meteorology; Mexican Affairs; Milk; Mines and mining; Mosquitoes; Mounds; Naturalization; Navigation; Navy; Negroes; Neutrality; Nitrates and nitrogen; Ordnance Department pamphlets; Oysters; Pan America; Panama Canal; Paper manufacture; Peace; Petroleum; Philippines; Phosphates; Plants, Culture; Playgrounds; Political science; Porto Rico; Postal service; Potash; Poultry; Presidents of United States; President Wilson's administration and messages; Prisons and reformatories; Radiotelegraphy; Railroads; Rats; Rivers; Roads; Safety appliances; Schoolhouses; Seeds; Sewers and sewage; Slavery; Standards Bureau publications; Strikes; Submarine warfare; Sugar cane culture; Sugar trade; Surveying; Tariff; Teachers; Tests of metals; Thermometers; Ticks; Tides; Transportation; Treasury decisions; Treaties; Trusts; Vegetables; War in Europe; Water power; Water purification and pollution; Weather; Weights and measures; Wild animals; Wilson administration; Woman suffrage; Yearbooks of Department of Agriculture.

The following price lists of Government publications are issued by the Superintendent of Documents: 10, Laws; 11, Foods and Cooking; 15, Geological

\* Discontinued during the war.

Survey; 16, Farmers' Bulletins; 18, Engineering and Surveying; 19, Army and Organized Militia; 20, Public Domain; 21, Fishes; 24, Indians; 25, Transportation; 28, Finance; 31, Education; 32, Insular Possessions; 33, Labor; 35, Geography and Explorations; 36, Government Periodicals; 37, Tariff; 38, Animal Industry; 39, Birds and Wild Animals; 40, Chemistry; 41, Insects, also bees and honey; 42, Irrigation, Drainage, and Water Power; 43, Forestry; 44, Plants; 45, Roads; 46, Soils and Fertilizers; 48, Weather; 49, Proceedings of Congress; 50, American History and Biography; 51, Health, Disease, and Sanitation; 53, Maps; 54, Political Science; 55, National Museum; 57, Astronomical Papers; 58, Mines and Mining; 59, Interstate Commerce Commission; 60, Alaska; 61, Panama Canal and Canal Zone; 62, Commerce and Manufactures; 63, Navy; 64, Standards of Weight and Measure; 65, Foreign Relations; 67, Immigration; 68, Farm Management; 69, Pacific States.

*Correspondence.*—Requests for price lists and publications should be addressed to Superintendent of Documents, Government Printing Office, Washington, D. C.

## SMITHSONIAN INSTITUTION.

*Principal administrative officials.*—Secretary, Assistant Secretary, Chief Clerk. The establishment: President of the United States, Vice President of the United States, Chief Justice of the United States, Secretary of State, Secretary of the Treasury, Secretary of War, Attorney General, Postmaster General, Secretary of the Navy, Secretary of the Interior, Secretary of Agriculture, Secretary of Commerce, Secretary of Labor. Board of Regents: Include the Chancellor (Chief Justice of United States), Vice President of United States, three United States Senators, three Members of the House of Representatives, and six citizens of United States. Total, 14 members. Executive committee, three members.

*General information and duties.*—The Smithsonian Institution was created by act of Congress in 1846, under the terms of the will of James Smithson, an Englishman, who in 1826 bequeathed his fortune to the United States to found, at Washington, under the name of the "Smithsonian Institution," an establishment for the "increase and diffusion of knowledge among men." The institution is legally an establishment, having as its members the President of the United States, the Vice President, the Chief Justice, and the President's Cabinet. It is governed by a Board of Regents consisting of the Vice President, the Chief Justice, three Members of the United States Senate, three Members of the House of Representatives, and six citizens of the United States appointed by joint resolution of Congress. The Secretary of the Smithsonian Institution is its executive officer and the director of its activities.

Through the Hodgkins fund, the income of \$100,000 of which is for the increase and diffusion of knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man, grants have been made, publications issued, and medals and prizes awarded.

The institution, in cooperation with the Library of Congress, maintains a scientific library which numbers 500,000 titles, consisting mainly of the transactions of learned societies and scientific periodicals.

*General publications.*—The series of publications issued by the institution proper are: (a) Smithsonian Contributions to Knowledge, (b) Smithsonian Miscellaneous Collections, (c) Smithsonian Annual Report, and (d) a few special publications. Under the direction of the institution there are also issued the publications of the United States National Museum, the Bureau of American Ethnology, and the Astrophysical Observatory. The topics covered by the publications of the institution are the following:

Aeronautics, amphibians, anatomy, anthropology, archeology, arts and industries, astronomy, astrophysics, atmospheric electricity, bacteriology, bibliography, biography, biology (general), birds, botany, chemistry, coelenterates, crustaceans, echinoderms, electricity, embryology, engineering, ether and matter (theories), ethnology, exploration, fishes, geography, geology, heat, hygiene, insects, light, mammals, mathematics, mechanics, medicine, merostomes, meteorology, mineralogy, molluscoids, mollusks, onychophora, paleontology, pathology, petrology, philology, physics, physiology, psychology, reptiles, sanitation, seismology, sound, surgery, terrestrial magnetism, trilobites, worms, and zoology (general).

*Method of distribution of general publications.*—General publications (except the Annual Reports which are free to all applicants) are distributed without



charge only to public libraries, educational establishments, learned societies, and specialists in this country and abroad. They are supplied to other institutions and to individuals at varying prices. Remittances should be made payable to the "Smithsonian Institution."

*Annual and other periodical publications.*—The Annual Report of the Board of Regents of the Smithsonian Institution shows the operations, expenditures, and condition of the institution and its branches for the fiscal year. It contains a general appendix comprising a selection of nontechnical papers describing recent progress or important developments in all branches of science. Limited editions of pamphlet copies of papers included in the report are issued for convenience and economy in conserving the bound volumes. Volumes and separates are distributed free to libraries and individuals by the institution. Volumes are also sold by the Superintendent of Documents, Government Printing Office.

*List of publications.*—A classified list of available publications is issued annually. A quarterly list of new publications is also issued. General lists of papers included in the several series have been published from time to time, but are now out of print.

*Indexes to publications.*—No general index to the contents of the several series of Smithsonian publications has been issued by the institution since that covering the years from 1846 to 1886, now out of print. Sets of cards may be purchased from the Library of Congress of a dictionary catalogue of all publications of the institution and its branches with the exception of the Museum Proceedings, Volumes I to XXX, inclusive.

*Mailing lists.*—Free mailing lists of libraries and learned societies are maintained, but none of individuals except limited lists of specialists.

*Maps.*—No maps are published by the institution except as illustrations in its publications.

*Correspondence.*—All correspondence should be addressed to the Secretary, Smithsonian Institution, Washington, D. C.

## UNITED STATES NATIONAL MUSEUM.

(Including the National Gallery of Art.)

*Principal administrative officials.*—Assistant Secretary in Charge, Administrative Assistant, three head Curators.

The United States National Museum is the depository of the national collections. It is especially rich in the natural history of America, including zoology, botany, geology, paleontology, archeology, and ethnology, and has extensive series relating to the arts and industries, the fine arts, and American history.

The National Gallery of Art contains the George P. Marsh collection of etchings, engravings, and books on art; the Charles L. Freer collection, comprising numerous paintings, etchings, etc., by Whistler and other American artists, and many examples of Japanese and Chinese art; the Harriet Lane Johnston collection, including a number of portraits by British masters; and the William T. Evans collection of paintings by contemporary American artists.

*General publication.*—The National Museum issues two series of technical publications, namely: (a) Proceedings and (b) Bulletins, which consist of papers or contributions descriptive of its collections or relating to its operations. The subjects covered are mainly scientific, though the fine and industrial arts are also represented. The general classification of these subjects, as also of the collections of the museum, is as follows: Biology (zoology, botany); geology (systematic and applied geology, mineralogy, petrology, paleontology); anthropology (physical anthropology, ethnology, archeology); fine arts; industrial arts.

(a) The Proceedings, established in 1878, serve for the publication of the relatively shorter papers, presenting newly acquired facts in zoology, geology and anthropology, descriptions of new forms and revisions of limited groups. A small number of copies of each paper is printed in pamphlet form for promptly supplying specific needs, the remainder of the edition being assembled in the form of volumes, amounting to between one and two annually.

(b) The Bulletins, begun in 1875, serve for the publication of the larger and more comprehensive contributions, such as monographs of zoological groups, faunal studies, descriptive catalogues of collections, instructions for collecting,

reports of explorations, etc. Each Bulletin consists of a single contribution, which in a few instances has extended to two or more volumes. Included in the Bulletin series is the Contributions from the U. S. National Herbarium, for the publication of the botanical papers of the museum, but the volumes are numbered independently.

*Method of distribution of general publications.*—The above publications are distributed free while available by the museum. They may also be purchased from the Superintendent of Documents, except the separates from the Proceedings.

*Annual and other periodical publications.*—Annual Report. Restricted to a summary of operations and record of additions to the collections. Distributed free by the museum, and for sale by the Superintendent of Documents. A congressional edition of the Annual Reports is published for distribution by Senators and Representatives.

*Lists of publications.*—Each Annual Report contains a list of the publications of the year, of which a limited number of copies are issued separately. Two general indexed catalogues, covering the periods from 1875 to 1900, and 1901 to 1906, respectively, were printed, but the editions have long been exhausted. A monthly list is not issued.

*Indexes to publications.*—The only lists that have been indexed were the general ones from 1875 to 1900 and 1901 to 1906.

*Mailing lists.*—Free mailing lists are maintained for all series of publications. Outside of libraries and science and art establishments, they are mainly restricted to specialists.

*Maps.*—No maps are published except occasionally a sketch map in a faunal paper.

*Correspondence.*—Assistant Secretary Smithsonian Institution in charge of National Museum.

#### BUREAU OF AMERICAN ETHNOLOGY.

The Bureau of American Ethnology is engaged in the collection and publication of information relating to the American Indians and the natives of Hawaii.

*Principal administrative official.*—Ethnologist in Charge.

*General publications.*—(a) Bulletins, published as occasion demands, are devoted to more or less monographic treatment of the various phases of anthropology of the American Indians, including ethnology, archeology, language (including texts with translations), mythology and folklore, and bibliography. Of the 60 bulletins published, 59 treat of the American Indians and one of the natives of Hawaii. Eleven bulletins are in press. (b) Contributions to North American Ethnology. Vols. I-VII and IX published; series discontinued. The scope of the contents is identical with that of the bulletins. (c) Introductions: Relate to language, sign language, and mortuary customs. Four volumes; series discontinued. (d) Miscellaneous publications: Various subjects pertaining to the American Indians, but not designed for general distribution.

*Method of distribution of general publications.*—All publications of the Bureau of American Ethnology are distributed gratuitously, on receipt of requests, until the editions are exhausted, after which they may usually be procured from the Superintendent of Documents, Government Printing Office, at a price which covers cost of printing and binding. A congressional edition of each Annual Report and Bulletin is published also for distribution by Senators and Representatives. The Superintendent of Documents, Government Printing Office, issues a price list of publications relating to Indians.

*Annual and other periodical publications.*—The Annual Reports are devoted to a summary of the operations of the bureau and to "accompanying papers" consisting of memoirs on the ethnology and archeology of the American Indians and the natives of Hawaii. Thirty-one Annual Reports have been published, in 36 volumes, and three are in press. The scope of the work of this bureau is limited to the Indians of North America and the natives of Hawaii. It covers the ethnology, archeology, and physical anthropology of the tribes studied.

*List of publications.*—A List of Publications of the Bureau of American Ethnology is printed at intervals for distribution. It contains an author and subject index of 40 pages. The bureau does not issue a monthly list of its publications.

*Indexes to publications.*—Each Annual Report and most of the Bulletins issued by the bureau contain indexes of their contents. No general index to the publications of the bureau has been issued, but the List of Publications contains a list of authors and titles of all the memoirs issued.

*Mailing lists.*—The bureau maintains a mailing list of important libraries and other institutions which receive its publications regularly as issued. Lists of individuals are not maintained.

*Maps.*—The maps issued by the bureau pertain to American ethnology and are designed to illustrate its publications. Two maps of linguistic stocks have been published also separately.

*Correspondence.*—Correspondence relating to publications should be addressed to Bureau of American Ethnology, Smithsonian Institution, Washington, D. C.

#### NATIONAL ZOOLOGICAL PARK.

The National Zoological Park has an area of 167 acres, and is located in the Rock Creek Valley, 2 miles north of the center of Washington. Its collection comprises about 1,500 animals.

*Principal administrative official.*—Superintendent.

*Publications.*—The National Zoological Park does not publish documents of any kind. The Annual Report is printed as a part of the report of the Secretary of the Smithsonian Institution. Most of the zoological papers by members of the staff are printed in serial publications of the institution and the National Museum.

#### ASTROPHYSICAL OBSERVATORY.

The Astrophysical Observatory investigates solar radiation and other solar phenomena. The work of this observatory is carried on partly in Washington and partly at a station on Mount Wilson in California.

*Principal administrative official.*—Director.

*General publications.*—Annals of the Astrophysical Observatory. Vol. I. Contains: Infra-red spectrum of the sun; Wave length and refraction for rock-salt and fluorite; Construction of bolometer and sensitive galvanometer. Vol. II. Measurements of intensity of solar radiation; Solar constant of radiation; Transparency of earth's atmosphere; Radiation and temperature of the earth; Variation of brightness over the solar disk; Theory of solar constant work; Construction of bolometer and pyrheliometer. Vol. III. Variability of the sun; Mean value of solar constant of radiation; Transparency of atmosphere at stations of different altitudes; Distribution of radiation over the solar disk; Temperature of the sun; Transparency of water vapor for infra-red rays; Effect of great volcanoes on climate.

The 1900 Solar Eclipse Expedition of the Astrophysical Observatory. Observations at Wadesboro, N. C., of May 28, 1900; photography of solar corona; heat of solar corona.

*Method of distribution of general publications.*—Limited edition distributed free by the Astrophysical Observatory. Remainder sold by Superintendent of Documents, Government Printing Office.

*Annual and other periodical publications.*—Report of director made to Secretary of Smithsonian Institution, and included in Smithsonian Annual Report. Limited edition of separates distributed free.

*List of publications.*—No separate list issued. Included in Smithsonian List of Publications.

*Mailing lists.*—Free mailing list of observatories and specialists maintained

*Correspondence.*—Address Secretary, Smithsonian Institution.

#### NATIONAL ACADEMY OF SCIENCES.

*Principal administrative officials.*—President (Secretary of Smithsonian Institution), Vice President, Home Secretary, Foreign Secretary, Treasurer. The council: The above-named officials and six other members of the Academy. Total, 11 members.

*General information and duties.*—The National Academy of Sciences of the United States of America was incorporated by an act of Congress March 3, 1863. The act named a body of incorporators, set forth the rights and privileges of the academy, and provided that "the academy shall, whenever

called upon by any department of the Government, investigate, examine, experiment, and report upon any subject of science or art." The academy is custodian of a number of trust funds for the award of medals and grants for research.

*General publications.*—The academy issues the following publications: Scientific memoirs, consisting of large quarto volumes containing in detail researches and very extensive scientific data; biographical memoirs of deceased members; brief annual reports; and a monthly journal under the title, Proceedings of the National Academy of Sciences. This last publication was established for the purpose of presenting the announcement of all important discoveries and advances made in American investigations in a brief and concise form, reserving all details for publication in various special journals.

*Methods of distribution.*—Scientific memoirs, biographical memoirs, and annual reports are distributed to the larger libraries throughout the world in exchange. The Proceedings of the academy is published at the expense of the members, and for this reason, a subscription price of \$5 is charged.

*List of publications.*—A list of the publications of the academy has been published in the Proceedings, and separate copies are available upon request.

*Correspondence.*—Requests for publications shall be made to Home Secretary, National Academy of Sciences, Smithsonian Institution, Washington, D. C.

#### NATIONAL RESEARCH COUNCIL.

*Principal administrative officials.*—Chairman and Secretary.

*General information and duties.*—The National Research Council of the National Academy of Sciences was organized at the request of President Wilson in 1916, under the charter of the National Academy of Sciences. Its purpose is to promote research in the mathematical, physical, and biological sciences, and in their applications in engineering, agriculture, medicine, and other useful arts. During the war the Research Council, serving as the Department of Science and Research of the Council of National Defense, is devoting its entire attention to the solution of military and industrial problems. The Military Committee of the Research Council, consisting of the chiefs of the technical and scientific bureaus of the Army and Navy and other Government Departments, affords the necessary contact with the work of the Government, and the means of securing cooperation between governmental and civil agencies. The chief work hitherto accomplished by the Research Council includes the organization of the Division of Science and Research of the United States Signal Corps, including the meteorological service of the Army; initiation of the sound ranging service of the Army; development of the psychological methods now employed in examining all Army recruits; organization of the Research Information Committee, in cooperation with the Army and Navy Intelligence Services, with offices in Washington, London, and Paris; organization of extensive researches on submarine problems in cooperation with the Special Submarine Board of the Navy; organization of large cooperative investigations in agriculture, involving the joint action of the Department of Agriculture, State Experiment Stations, and universities; organization of medical researches for the Surgeon General of the Army; cooperation with educational institutions, leading to the organization of 72 research committees; development of many new instruments and devices for use by the Army and Navy.

*Publications.*—No publications have yet been issued by this Council.

*Correspondence.*—Address Secretary of National Research Council, Smithsonian Institution, Washington, D. C.

#### AMERICAN HISTORICAL ASSOCIATION.

*Principal administrative officials.*—President, two Vice Presidents, Secretary, Curator, Treasurer, and Executive Council of 12 members.

*General information and duties.*—The association was organized in 1889 for the promotion of historical studies, the collection and preservation of historical manuscripts and for kindred purposes in the interest of American history. Its principal office is in Washington and it reports annually to the Secretary of the Smithsonian Institution concerning its proceedings and conditions of historical study in America. Its collection of manuscripts, books, and pamphlets may be deposited in the Smithsonian Institution.

*General publications.*—They include about 700 papers as follows: I. Papers and Annual Reports of the American Historical Association. II. Prize essays and additional publications. III. Classified list of publications. IV. The American Society of Church History.

Only the Annual Reports are printed by the United States Government, it being the regular Annual Report through the Smithsonian Institution to Congress, required by law.

*Annual and other periodical publications.*—The association publishes an Annual Report in one or two volumes. It contains business proceedings of American Historical Association, certain historical papers read at annual meetings, reports on archives, and collections of historical documents, 2,500 copies printed for Smithsonian Institution and American Historical Association, of which the Smithsonian Institution has 500 copies for International Exchange and the American Historical Association has 2,000 for its members. (As membership is over 2,000 the American Historical Association has no copies for distribution outside its members.) One thousand five hundred copies printed for Congress and depository libraries. On sale by Superintendent of Public Documents. The Annual Report for 1915 consists of 375 pages and is printed as H. Doc. 1497, 64th Cong., 2d sess.

*List of publications.*—A classified list of publications was issued between 1884 and 1912, 34 pages, about 700 titles.

*Indexes to publications.*—General index in volume II of the Annual Report for 1914.

*Mailing list.*—None except as to members and as above indicated under the Smithsonian Institution.

*Correspondence.*—Secretary of the American Historical Association, Superintendent of Public Documents, Washington, D. C.

#### INTERNATIONAL EXCHANGE SERVICE.

The International Exchange Service is the agency of the United States Government for the exchange of scientific, literary, and governmental publications with foreign Governments, institutions, and investigators. It receives and dispatches about 600,000 pounds of printed matter annually.

*Principal administrative official.*—Chief Clerk.

#### INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

*Principal administrative official.*—Assistant in Charge.

The International Catalogue of Scientific Literature publishes an annual classified index to the literature of science. The organization consists of a central bureau in London and 33 regional bureaus established in, and supported by, the principal countries of the world. That for the United States is supported by an annual appropriation from Congress, administered by the Smithsonian Institution.

#### PAN AMERICAN UNION.

(Formerly International Bureau of the American Republics.)

*Principal administrative officials.*—Director General, Assistant Director, Chief Statistician, Chief Clerk and Editor, Assistant Editor, Trade Expert, Assistant Trade Expert, Chief Translator, Assistant Spanish Translator, Portuguese Translator, Acting French Translator, Special Compilers, Assistant Statistician, Librarian (Acting), Chief Accountant and Disbursing Officer, Chief of Mail Room, Superintendent of Building and Grounds.

Governing Board: Secretary of State (Chairman ex officio), Ambassador of Brazil, Ambassador of Argentina, Ambassador of Chile, Ambassador of Mexico, Minister of Bolivia, Minister of Uruguay, Minister of Guatemala, Minister of Haiti, Minister of Cuba, Minister of Venezuela, Minister of Salvador, Minister of Panama, Minister of Ecuador, Minister of Colombia, Minister of Peru, Minister of Honduras, Minister of Paraguay, Chargé d'Affaires of the Dominican Republic, Chargé d'Affaires of Nicaragua. (Costa Rica has at present no representative on the Governing Board).

*General information and duties.*—The Pan American Union, formerly the International Bureau of American Republics, is the official international organization of the 21 Republics of the Western Hemisphere, founded and maintained by them for the purpose of fostering friendship, commerce, intercourse, and peace. It is supported through their joint contributions, each nation annually paying that part of the budget of expenses which its population bears to the total population of all the Republics. Its general control reposes in a governing board made up of the diplomatic representatives in Washington of the 20 Latin-American Governments and the Secretary of State of the United States, the latter being *ex officio* chairman thereof. Its executive officers are a Director General and an Assistant Director, elected by the board. They in turn are assisted by a trained staff of statisticians, editors, compilers, trade experts, translators, librarians, and lecturers. It is strictly international in its scope, purpose, and control, and each nation has equal authority in its administration with each other nation and without the predominant influence of any one nation. Its activities and facilities include the following: The publication in English, Spanish, Portuguese, and French of an illustrated monthly bulletin, which is a record of the progress of all the Republics; the publication of handbooks, descriptive pamphlets, commercial statements, maps, and special reports relating to each country; correspondence covering all phases of Pan American activities; the distribution of every variety of information helpful in the promotion of Pan American acquaintance, cooperation, and solidarity of interests. Its library, known as the Columbus Memorial Library, contains upward of 40,000 volumes, including the official publications, documents, and laws of all the Republics, together with 20,000 photographs, a large collection of maps, and 150,000 subject-index cards. Its reading room has upon its tables the representative magazines and newspapers of Latin America. Both are open to the public for consultation and study. The Pan American Union sets the date, selects the place of meeting, and prepares the programs for the International Conferences of the American Republics, and it is also the custodian of their archives. It occupies and owns buildings and grounds situated on Seventeenth Street between B and C streets, overlooking Potomac Park on the south and the White House Park on the east.

*General publications.*—Monographs on each American Republic; handbooks and pamphlets on special subjects; topics include all the data on the history and development of the several countries. Some specific topics: Commerce, industries, communications, education, products, agriculture, government, and descriptions of physical features. Bibliographies on special subjects are prepared for distribution.

*Method of distribution of general publications.*—The Pan American Union has for free distribution a limited supply of the publications mentioned, but in view of the demand for many of them and the cost of printing, it has been found necessary to make a new regulation that *all requests for such matter must be made through, or with the approval of, a United States Senator or Member of Congress*, except in the case of applications from foreign countries, which should be made through the *Embassies* or *Legations* in Washington or through the home foreign office.

*Annual and other periodical publications.*—There is published a monthly Bulletin, which is essentially an illustrated magazine, with Spanish, English, Portuguese, and French editions. It carries the title of: *Boletín de la Unión Panamericana* (Spanish); *Bulletin of the Pan American Union* (English); *Boletim da União Pan-Americana* (Portuguese); and *Bulletin de l'Union Panaméricaine* (French).

This magazine is a complete record of the general progress of the American Republics and publishes specially prepared and profusely illustrated articles on current and historical events and economic conditions. Subscription price for the English edition is \$2.00 per year in countries of the Pan-American Union.

*List of publications.*—A list of publications is issued several times each year, as new material is received, and is available for free distribution.

*Indexes to publications.*—Each of the editions of the "Bulletin of the Pan American Union," Spanish, English, Portuguese, and French, has a separate semiannual index. These are available for past years and will be sent without charge on request.

*Mailing lists.*—No general free mailing lists for publications are maintained, although under special conditions certain offices and persons are regularly supplied with publications.

*Maps.*—Maps are not regularly published by the Pan American Union, except to illustrate special reports or articles. A few maps of countries are for sale. List is included in publication list.

*Correspondence.*—Should be addressed to Director General, Pan American Union, Seventeenth and B Streets, Washington, D. C.

## INTERSTATE COMMERCE COMMISSION.

*Principal administrative officials.*—Commissioners (Chairman and 8 others); Secretary; Assistant Secretary; Chief Clerk and Purchasing Agent; Disbursing Clerk; Chief Counsel; Assistant Counsel; Director of Valuation; Member of Advisory Board; Solicitor, Bureau of Valuation; Chief Examiner; Attorneys and Examiners; Chiefs of Bureaus: Appointments, Carriers' Accounts, Member Engineer Board, Supervisor Land Appraisals, Supervisor of Accounts, Classification Agent, Correspondence—Claims, Dockets, Documents, Classification Agent, Correspondence, Dockets, Documents, Express Agent, Indices, Inquiry, Library, Locomotive-boiler Inspection, Mails and Files, Printing, Safety, Statistics, Stenography, Tariffs.

*General information and duties.*—The original act to regulate commerce, approved February 4, 1887, provided for a commission consisting of five members. By various amendatory and supplementary enactments the powers of the commission have been increased and the scope of the regulating statute materially widened. Among the more important of these enactments are the acts of March 2, 1889; the Elkins Act, approved February 19, 1903; the Hepburn Act, approved June 29, 1906; the Mann-Elkins Act of June 18, 1910; the acts of August 24, 1912, May 29 and August 9, 1917. Under the act of August 9, 1917, the commission is now composed of nine members.

The commission appoints a secretary, who is its chief administrative and executive officer, an assistant secretary, and such attorneys, examiners, special agents, and clerks as are necessary to the proper performance of its duties.

The act to regulate commerce applies to all common carriers engaged in the transportation of oil or other commodities, except water and natural or artificial gas, by means of pipe lines, or partly by pipe lines and partly by railroad, or partly by pipe lines and partly by water, and to telegraph, telephone, and cable companies (whether wire or wireless) engaged in sending messages from one State, Territory, or District of the United States to any other State, Territory, or District of the United States, or to any foreign country, and to common carriers engaged in interstate transportation of passengers or property wholly by railroad (or partly by railroad and partly by water when both are used under a common control, management, or arrangement for a continuous carriage or shipment); also to express companies and sleeping-car companies; and to bridges or ferries used or operated in connection with any railroad engaged in interstate transportation.

The act to regulate commerce requires all rates to be reasonable and just; prohibits undue or unreasonable preferences or advantages in transportation rates or facilities; prohibits the charging of a higher rate for a shorter than for a longer haul, over the same line, in the same direction, the shorter being included within the longer haul, or the charging of any greater compensation as a through route than the aggregate of the intermediate rates subject to the act. It is provided, however, that the commission may, in special cases, after investigation, authorize carriers to charge less for longer than for shorter distances. The commission is authorized to require carriers to establish through routes and joint rates. The commission is also authorized to require carriers subject to the act to construct switch connections with lateral branch lines of railroads and private side tracks. The act provides that where two or more through routes and through rates shall have been established shippers shall have the right to designate in writing via which of such through routes the property shall be transported to destination.

The commission has jurisdiction, upon complaint or in a proceeding instituted upon its own initiative, and after full hearing, to determine and prescribe reasonable rates, regulations, and practices; to award reparation to injured shippers; and to require carriers to cease and desist from unjust discrimination or undue or unreasonable preferences.

Carriers are required to publish and file all rates, rules, and regulations applying to interstate traffic, and are prohibited from engaging in interstate trans-

portation unless such rates, rules, and regulations are published and filed. Severe penalties are provided in the statute for failure to observe the rates and regulations shown in the published tariffs.

The commission may inquire into the management of the business of all common carriers subject to the provisions of the act to regulate commerce, and may prescribe the accounts, records, and memoranda which shall be kept by the carriers, which shall be open to examination by the commission through its authorized agents or examiners. Carriers are required to file annual reports with the commission, and such other reports as may from time to time be required.

By the act of June 18, 1910 (Mann-Elkins law), the jurisdiction of the commission was increased as to through routes and joint rates, freight classification, switch connections, long and short hauls, filing or rejection of rate schedules, investigations on own motion, determining reasonable rates, suspension of proposed rates, and other matters. This act also authorized the President to appoint a special commission to investigate questions pertaining to the issuance of railroad stocks and bonds.

By act approved August 24, 1912 (sec. 11), a new paragraph was added to section 5 of the act to regulate commerce, by which it is made unlawful after July 1, 1914, for any common carrier subject to the act to regulate commerce to own, lease, operate, control, or have any interest in any competing carrier by water. Jurisdiction is conferred upon the commission to determine questions of fact as to competition, after full hearing, on the application of any railroad company or other carrier, and to extend beyond July 1, 1914, the time during which such ownership or operation of vessels plying elsewhere than through the Panama Canal may continue, when it is found to be in the interest of the public and is of advantage to the convenience and commerce of the people, and not in restraint of competition.

At the same time section 6 of the act was amended by adding a new paragraph conferring upon the commission jurisdiction over transportation of property from point to point in the United States by rail and water, whether through the Panama Canal or otherwise, and not entirely within the limits of a single State, this jurisdiction, under certain conditions, including power to establish physical connection between lines of the rail carrier and the dock of the water carrier by directing the rail carrier to make such connection; to establish through routes and maximum joint rates over such rail and water lines, and to determine the conditions thereof; to establish proportional rates by rail to and from ports, and to determine to what traffic and in connection with what vessels and upon what terms and conditions such rates shall apply; and to require rail carriers entering into through routing arrangements with any water carrier to extend the privileges of such arrangements to other water carriers.

By the act approved March 1, 1913, amending the act to regulate commerce, the commission is directed to investigate, ascertain, and report the value of all the property owned or used by every common carrier subject to the provisions of the act.

Jurisdiction is conferred upon the commission to enforce certain provisions of the act approved October 15, 1914, to supplement existing laws against unlawful restraints and monopolies in so far as such provisions relate to carriers subject to the act to regulate commerce. The act prohibits, with certain exceptions, carriers from discriminating between purchasers in sales of commodities and from making leases or sales of commodities and from acquiring stock or capital of other corporations engaged in commerce tending to substantially lessen competition or create a monopoly; makes it a felony for a president or other specified officers to misappropriate a carrier's funds; and as amended by act approved August 31, 1916, provides that, effective January 1, 1919, no carrier shall have dealings in securities or supplies or contract for construction or maintenance to the amount of more than \$50,000 in the aggregate in any one year with another corporation or organization when, by reason of common officers or otherwise, there exists a community of interest between the carrier and such other corporation or organization, except as a result of free competitive bidding under regulations to be prescribed by the commission. The commission is further authorized to investigate violations of the act by carriers and to require the guilty parties to cease therefrom, and its findings of fact in such investigations shall be conclusive when supported by testimony.

The urgent deficiency appropriation act approved October 22, 1913, provided that the Commerce Court should be abolished from and after December 31, 1913,



and that the jurisdiction theretofore vested in the Commerce Court under act approved June 18, 1910, be transferred to and vested in the several district courts of the United States.

The act approved March 4, 1915, which became effective June 2, 1915, as amended August 9, 1916, makes common carriers liable for all loss, damage, or injury to property caused by them, and forbids, with certain exceptions, limitations of liability.

The act of February 11, 1903, provides that suits in equity brought under the act to regulate commerce, wherein the United States is complainant, may be expedited and given precedence over other suits, and that appeals from the circuit court lie only to the Supreme Court. The act of February 19, 1903, commonly called the Elkins law, prohibits rebating, allows proceedings in the courts by injunction to restrain departures from published rates, and provides that cases prosecuted under the direction of the Attorney General in the name of the commission shall be included within the expediting act of February 11, 1903.

Under the act of August 7, 1888, all Government-aided railroad and telegraph companies are required to file certain reports and contracts with the commission, and it is the commission's duty to decide questions relating to the interchange of business between such Government-aided telegraph company and any connecting telegraph company. The act provides penalties for failure to comply with the act of the orders of the commission.

The act of March 2, 1893, known as the safety-appliance act, provides that railroad cars used in interstate commerce must be equipped with automatic couplers, and drawbars of a standard height for freight cars, and have grab irons or handholds in the ends and sides of each car; and that locomotive engines used in moving interstate traffic shall be equipped with a power driving-wheel brake and appliances for operating the train-brake system. The act directs the commission to lodge with the proper district attorneys information of such violations as may come to its knowledge. The act of March 2, 1903, amended this act so as to make its provisions apply to Territories and the District of Columbia, to all cases when couplers of whatever design are brought together, and to all locomotives, cars, and other equipment of any railroad engaged in interstate traffic, except logging cars and cars used upon street railways; and provides for a minimum number of air-braked cars in trains.

By act of April 14, 1910, the safety-appliance acts were supplemented so as to require railroads to equip their cars with sill steps, hand brakes, ladders, running boards, and roof handholds, and the commission was authorized to designate the number, dimensions, location, and manner of application of appliances.

By act of May 6, 1910, the prior accident-reports law was repealed and a new statute passed giving more power to the commission as to investigating accidents, and is more comprehensive than the former law.

The act of March 4, 1907, makes it the duty of the Interstate Commerce Commission to enforce the provisions of the act wherein it is made unlawful to require or permit employees engaged in or connected with the movement of trains to be on duty more than a specified number of hours in any 24.

The act of May 30, 1906, directs the Interstate Commerce Commission to make regulations for the safe transportation of explosives by common carriers engaged in interstate commerce. A penalty is provided for violations of such regulations.

The act of May 30, 1908, makes it the duty of the Interstate Commerce Commission to enforce the provisions of the act wherein it is provided that after a certain date no locomotive shall be used in moving interstate or foreign traffic, etc., not equipped with an ash pan which can be emptied without requiring a man to go under such locomotive. A penalty is provided for violations of this act.

The act of February 17, 1911, confers jurisdiction upon the commission to enforce certain provisions compelling railroad companies to equip their locomotives with safe and suitable boilers and appurtenances thereto.

By an amendatory act approved March 4, 1915, the powers of the commission to inspect and to prescribe standards of safety for locomotive boilers and appurtenances thereto was extended to include "all parts and appurtenances of the locomotive and tender."

The urgent deficiency appropriation act approved October 22, 1913, contains an appropriation of \$25,000 to enable the commission to investigate and test block signals and appliances for the automatic control of railway trains and appliances or systems intended to promote the safety of railway operation, in-

cluding experimental tests of such systems and appliances as shall be furnished, in completed shape, to the commission for investigation and test, free of cost to the Government, in accordance with the provisions of joint resolution approved June 30, 1906, and sundry civil appropriation act approved May 27, 1906. Provision was made in the sundry civil appropriation acts approved August 1, 1914, March 3, 1915, July 1, 1916, and June 12, 1917, for continuing the investigation and testing of these systems and appliances.

The act making appropriations for the service of the Post Office Department approved July 28, 1916, empowers the commission to fix and determine fair and reasonable rates and compensation for the transportation of mail matter by railway common carriers and service connected therewith, prescribing the method by weight or space, or both, or otherwise.

## PUBLICATIONS.

*General publications.*—Act to Regulate Commerce and Amendments.<sup>1</sup> Contains the original act as revised to date and all acts passed by Congress conferring jurisdiction upon the commission, but not all acts passed under the commerce clause of the Constitution.

Rules of Practice before the Commission.<sup>1</sup> Issued for the guidance of litigants before the commission, and also contains a form to be followed in the filing of a formal complaint.

Tariff Circular No. 18-A and Supplements Nos. 3 and 4 thereto.<sup>1</sup> Contains regulations to govern the construction and filing of freight tariffs and classifications and passenger-fare schedules and administrative rulings.

Tariff Circular No. 19-A and Supplement No. 1.<sup>1</sup> Contains regulations to govern the construction and filing of tariffs and classifications of express companies and administrative rulings.

Conference Rulings Bulletin No. 7.<sup>1</sup> Contains expressions of the views of the commission on informal inquiries involving special facts or requiring interpretation and construction of the law, and are to be regarded as precedents governing similar cases.

Decisions in Formal Cases. Issued in the first instance in advance sheets and served on the parties to the case. Only a limited distribution is made by the commission, but copies are sold on subscription by the Superintendent of Documents at a cost at the rate of \$1 per volume. The advance sheets are later issued in collected volumes known as Interstate Commerce Commission Reports. Copies are obtainable from the Superintendent of Documents, at a cost of \$1.50 per volume.

Regulations for the Transportation of Explosives and other Dangerous Articles by Freight and by Express and Specifications for Shipping Containers.<sup>1</sup> Issued under authority of Act of Congress of March 4, 1909. They are incorporated in the tariffs of the carriers and are binding upon all common carriers engaged in interstate or foreign commerce which transport explosives and other dangerous articles by land.

Notice to Shippers in Foreign Countries who Ship Dangerous Articles to the United States.<sup>1</sup>

Orders. Contain instructions to carriers subject to the Act to Regulate Commerce. Issued in printed and typewritten form. Printed orders are obtainable from the Superintendent of Documents.

National Car Demurrage Rules and Explanations.<sup>1</sup> Adopted by the American Railway Association and tentatively indorsed by the commission, subject to its right and duty to inquire into the legality or reasonableness of any rule or rules which may be made the subject of complaint.

Code of Storage Rules.<sup>1</sup> Same as next above.

National Code of Rules Governing the Weighing and Reweighing of Carload Freight. Same as second above.<sup>1</sup>

Laws, Rules, and Regulations for Inspection and Testing of Locomotives and Tenders and their Appurtenances.<sup>2</sup>

Interstate Commerce Commission Cases in the Federal Courts, 1887 to 1914.<sup>3</sup> Contains the cases of the commission which have been reviewed by the Federal

<sup>1</sup> Obtainable from the Interstate Commerce Commission when available, and also from the Superintendent of Documents.

<sup>2</sup> Obtainable only from the Superintendent of Documents.

<sup>3</sup> Out of print.

Courts since its organization to December 1, 1914; citations to same, with brief points decided.

Valuation of Common Carriers.<sup>2</sup> Orders and Circulars issued from time to time governing the conduct of the commission's work in ascertaining the values of common carriers, in accordance with the Act of March 1, 1918.

Accounting Documents,<sup>2</sup> as prescribed by the Interstate Commerce Commission in accordance with Section 20 of the Act to Regulate Commerce, that are of current effect with respect to various classes of carriers, purchasable only from the Superintendent of Documents, as follows:

(A) STEAM RAILWAYS.

Classification of Operating Revenues and Operating Expenses of Steam Roads. Issue of 1914. Effective on July 1, 1914.

Condensed Classification of Operating Expenses of Steam Roads. Issue of 1914. Effective July 1, 1914.

Index to the Classification of Operating Expenses of Steam Roads.

Classification of Investment in Road and Equipment of Steam Roads. Issue of 1914. Effective on July 1, 1914.

Classification of Train-Miles, Locomotive-Miles, and Car-Miles of Steam Roads. Issue of 1914. Effective on July 1, 1914.

Classification of Income, Profit and Loss, and General Balance-Sheet Accounts of Steam Roads. Issue of 1914. Effective on July 1, 1914.

Regulations to Govern the Destruction of Records of Steam Roads. Issue of 1914. Effective on July 1, 1914.

An Order of the Interstate Commerce Commission, dated June 28, 1915. In the Matter of the Destruction of Records of Steam Roads. Effective on July 1, 1915.

Accounting Bulletin No. 15, Interpretations of Accounting Classifications. Effective on January 1, 1918.

An Order of the Interstate Commerce Commission, dated July 19, 1915. In the Matter of a Uniform System of Accounts to be Kept by Steam Railways. Effective on July 1, 1915.

(Supplement to the Classification of Investment in Road and Equipment of Steam Roads.)

Rules Governing the Classification of Steam Railway Employees and their Compensation. Effective on July 1, 1915.

Supplement to Rules Governing the Classification of Steam Railway Employees and their Compensation. Effective on July 1, 1917.

Rules Governing the Monthly Reports of Railway Accidents. Issue of 1915. Effective on July 1, 1915.

Regulations to Govern the Forms and Recording of Passes. Issue of 1917. Effective on January 1, 1917. (Applies also to Electric Railways, Carriers by Water, and Sleeping-Car Companies.)

Rules Governing the Separation of Operating Expenses between Freight Service and Passenger Service on Large Steam Railways. Effective on July 1, 1915.

Amendment to Rules Governing the Separation of Operating Expenses between Freight Service and Passenger Service on Large Steam Railways, from October 23, 1917. (Procurable only from the Interstate Commerce Commission.)

(B) ELECTRIC RAILWAYS.

Uniform System of Accounts for Electric Railways. Issue of 1914. Effective on July 1, 1914.

An Order of the Interstate Commerce Commission. Dated July 19, 1915. In the Matter of a Uniform System of Accounts to be Kept by Electric Railways. Effective on July 1, 1915.

(Supplement to the Uniform System of Accounts for Electric Railways. Issue of 1914.)

Regulations to Govern the Destruction of Records of Electric Railways. Effective on May 1, 1913.

Accounting Bulletin No. 14. Interpretation of Accounting Classifications. Effective on May 1, 1917.

<sup>1</sup> Obtainable from the Interstate Commerce Commission when available, and also from the Superintendent of Documents.

<sup>2</sup> Obtainable only from the Superintendent of Documents.

**(C) EXPRESS COMPANIES.**

Uniform System of Accounts for Express Companies. Issue of 1914. Effective on July 1, 1914.

Accounting Bulletin No. 13. Decisions upon Questions Raised under Classifications. Effective on January 1, 1917.

Regulations to Govern the Destruction of Records of Express Companies. Effective on July 1, 1915.

**(D) CARRIERS BY WATER.**

Classification of Operating Expenses of Carriers by Water. First Issue. Effective on January 1, 1911.

Alphabetical List of Representative Items Chargeable to Operating Expenses of Carriers by Water.

Classification of Operating Revenues of Carriers by Water. First Issue. Effective on January 1, 1911.

Form of General Balance Sheet Statement for Carriers by Water. First Issue. Effective on January 1, 1913.

Classification of Expenditures for Real Property and Equipment for Carriers by Water. First Issue. Effective on January 1, 1913.

Classification of Income and Profit and Loss Accounts for Carriers by Water. First Issue. Effective on July 1, 1913.

Regulations to Govern the Destruction of Records of Carriers by Water. Effective on July 1, 1913.

An Order of the Interstate Commerce Commission. Dated July 19, 1915. In the Matter of a Uniform System of Accounts to be Kept by Carriers by Water. Effective on July 1, 1915. (Supplement to the Classification of Expenditures for Real Property and Equipment for Carriers by Water. First Issue.)

Accounting Bulletin No. 12, Interpretations of Accounting Classifications. Effective on February 1, 1917.

**(E) PIPE-LINE COMPANIES.**

Classification of Investment in Pipe Lines, Pipe-Line Operating Revenues, and Pipe-Line Operating Expenses of Carriers by Pipe Lines. Issue of 1915. Effective on January 1, 1915.

Regulations to Govern the Destruction of Records of Carriers by Pipe Lines. Effective on July 1, 1915.

**(F) SLEEPING-CAR COMPANIES.**

Classification of Revenues and Expenses of Sleeping-Car Operations, of Auxiliary Operations, and Other Properties for Sleeping-Car Companies. Effective on July 1, 1912.

An Order of the Interstate Commerce Commission. Dated June 8, 1911. In the Matter of the Destruction of Records of Sleeping-Car Companies. Effective on October 1, 1911.

An Order of the Interstate Commerce Commission. Dated July 24, 1915. In the Matter of Destruction of Records of Sleeping-Car Companies. Effective on August 1, 1915. (Supplements the Order of June 8, 1911.)

**(G) TELEPHONE COMPANIES.**

Uniform System of Accounts for Telephone Companies. (Classes A & B.) First Issue. Effective on January 1, 1913.

(Supplement to the First Issue of the Uniform System of Accounts for Telephone Companies. Class A and Class B. Effective on January 1, 1915.)

Uniform System of Accounts for Telephone Companies. Class C. Effective on January 1, 1915.

Accounting Bulletin No. 11. Interpretations of Accounting Classifications embodied in Uniform Systems of Accounts for Telephone Companies (Classes A, B, and C). Effective on July 1, 1913.

Regulations to Govern the Destruction of Records of Telephone, Telegraph, and Cable Companies. Effective on February 1, 1914. (Out of print.)

Rules Governing the Classification of Telephone Employees. Effective on July 1, 1917.

## (H) TELEGRAPH AND CABLE COMPANIES.

Uniform System of Accounts for Telegraph and Cable Companies. Effective on January 1, 1914.

(See also last item under (G) Telephone Companies.)

## (I) GAS AND ELECTRIC CORPORATIONS.

Reports of Investigations of Railway Accidents.<sup>1</sup> Pursuant to the Act of May 6, 1910, the Commission, through its Bureau of Safety, investigates in particular cases, collisions, derailments, or other accidents resulting in serious injury to persons, occurring on the line of any common carrier engaged in interstate commerce, for the purpose of determining the causes of railroad accidents and preventive measures which might be taken to avert them; and, from time to time the finding of such investigations are published in pamphlet form.

Safety Appliance Publications.<sup>1</sup> Under the authority of the safety appliance acts governing the number, dimensions, location, and manner of application of the various safety appliances with which all cars and engines are required to be equipped are published in pamphlet form as follows:

United States Safety Appliance Standards, March 13, 1911. Designates the standards of equipment to be used on all cars.

Plates Illustrating United States Safety Appliance Standards.

Order of October 10, 1910. Prescribes the standard height of drawbars.

Orders of March 13, 1911, and November 2, 1915. Extend the period within which common carriers shall comply with all the requirements of the safety appliance acts.

Classification of Safety Appliance Defects to be Reported by Federal Inspectors, July 1, 1911.

Order of June 6, 1910. Requires an increase in the minimum percentage of power-brakes to be used and operated on trains. (Typewritten Form).

The Hours of Service Law and Administrative Rulings and Opinions Thereon.<sup>1</sup> Contains the law limiting the hours of service of railway employees engaged in the operation of railway trains, and administrative rulings of the commission thereon.

Order of October 9, 1916. In the Matter of Block-Signal and Train-Order Statistics.<sup>1</sup> Requests the carriers to submit certain statistics to the Commission.

*Method of distribution of general publications.*—Individual requests for general publications are complied with when practicable; also copies in any quantity may be obtained from the Superintendent of Documents at rates prescribed by that office. See Note.

*Annual and other periodical publications.*—Annual Reports<sup>1</sup> to the Congress, beginning with the year 1887, contain a summary of the work performed by the commission during each year; a digest of points decided in reported cases of the commission, and a digest of Federal Court decisions.

Annual Reports<sup>1</sup> on the statistics of railways in the United States beginning with the year 1888.

The texts of the Statistics of Railways,<sup>1</sup> preceding the statistics for individual companies, presented in tabular form, include many summary statements of financial and operating statistics of the steam railway companies in the United States as a whole.

Annual Reports on the Statistics of Express Companies in the United States, beginning with 1909.

Preliminary Abstract of Statistics of Common Carriers.<sup>2</sup> The series of preliminary abstracts began with the year 1911, and the issue of 1916 will contain 249 pages presenting extensive statistics compiled from the annual reports of steam railways having operating revenues above \$1,000,000 for the year, comprising numerous items showing mileage, revenues, and expenses in detail, operating statistics, freight traffic movement, and equipment, an analysis of general operating expense accounts with respect to class of service, as well as balance sheet, income statement, profit and loss statement, and also certain figures from the reports of the principal express companies and the Pullman Co. The abstracts, prior to the issue for the year ended December 31, 1916, do not contain any summaries or total figures for the carriers as a whole, but merely include, in tabular form, the returns of individual carriers.

<sup>1</sup> Obtainable from the Interstate Commerce Commission when available, and also from the Superintendent of Documents.

<sup>2</sup> Obtainable only from the Superintendent of Documents.

**Accident Bulletins.**<sup>3</sup> Issued quarterly and contain statistics relating to accidents occurring on steam railways and separately, accidents occurring on electric railways subject to the act to regulate commerce. They give in considerable detail facts pertaining to collisions, derailments, and other accidents resulting in injury to persons, equipment, or roadbed, arising from the operating of railways used in interstate commerce. The bulletins also include summaries of reports to the Interstate Commerce Commission made by the Chief of the Bureau of Safety, covering accidents investigated by that bureau during each quarter.

**Tabulation of Statistics Pertaining to Block Signals, Interlocking Plants, and the Telegraph and the Telephone for Transmission of Train Orders as Used on the Railroads of the United States.**<sup>1</sup> Details the various systems of signals in use on the railroads together with the mileage so operated, as well as mileage operated by the train-order system.

**A Statistical Analysis of Carriers' Monthly Hours of Service Reports.**<sup>1</sup> Shows the number of instances in which employees were on duty in excess of the statutory period and the approximate causes thereof; issued annually.

**Annual Reports of the Chief of the Bureau of Safety to the Interstate Commerce Commission.**<sup>1</sup> Contain a summary of the work of that division for the year and statistics pertaining to the enforcement of the various safety appliance acts.

**Annual Reports of the Chief Inspector of Locomotive Boilers to the Interstate Commerce Commission.**<sup>1</sup> Contain a summary of the work of that division for each year.

**List of publications.**—The commission has not issued a printed list of its publications, but a list is embraced in a pamphlet published by the Superintendent of Documents, entitled, "Interstate Commerce Commission Publications," known as Price List No. 59. No monthly list of publications is issued.

**Indexes to publications.**—The only indexes published by the commission in separate form are the following:

(a) Table of Cases and Opinions of the Interstate Commerce Commission, volumes I to XXVII, inclusive.

(b) Supplement No. 1 to Table of Cases and Opinions of the Interstate Commerce Commission, volumes XXVII to XXXV, inclusive.

(c) Table of Commodities in the Decisions of the Interstate Commerce Commission, volumes I to XV, inclusive.

(d) Table of Commodities in the Decisions of the Interstate Commerce Commission, volumes XII to XXIII, inclusive.<sup>2</sup>

(e) Table of Cases Cited in the Decisions of the Interstate Commerce Commission, volumes I to XIV, inclusive.

(f) Table of Cases Cited in the Decisions of the Interstate Commerce Commission, volumes XII to XXV, inclusive.

The above are printed by the commission for its internal use, but copies are also obtainable from the Superintendent of Documents.

**Mailing lists.**—No general mailing list is maintained for publications under paragraph 2. The annual publications are distributed to a small list of public and educational libraries.

**Maps.**—The commission has not published any maps.

**Correspondence.**—Requests for publications should be addressed to Interstate Commerce Commission, Washington, D. C.

## DIRECTOR GENERAL OF RAILROADS.

**Principal administrative officials.**—Director General (Secretary of the Treasury); Advisory Board (consisting of five members).

**General information and duties.**—The control of the railroads was taken over by the Government under authority of Executive Order on December 27, 1917, for the purpose of operation during the war and for such period thereafter as may be provided by Congress.

**Publications.**—The only publications issued at this time are in the form of General Orders and Circulars to Railroads which deal with operation of the railroads by the Government. These are distributed to the Executive Officers

<sup>1</sup> Obtainable from the Interstate Commerce Commission when available, and also from the Superintendent of Documents.

<sup>2</sup> Obtainable only from the Superintendent of Documents.

<sup>3</sup> Out of print.

of the railroads and to a selected list of others to whom these publications are a matter of interest.

*Communications.*—Requests for these publications should be addressed to Secretary to Director General of Railroads, Interstate Commerce Building, Washington, D. C.

## THE PANAMA CANAL.

*Principal administrative officials.*—In Washington: General Purchasing Officer and Chief of Office; Assistant to the Chief of Office; Chief Clerk, Purchasing Department; Assistant Auditor; Appointment Clerk. On The Isthmus: Governor of the Panama Canal, Engineer of Maintenance, Chief Quartermaster, Auditor, Chief Health Officer, Executive Secretary.

*General information and duties.*—The Panama Canal officials are charged under the act of August 24, 1912, with the completion of the construction of the Panama Canal, its operation and maintenance, and the governing and sanitation of the Canal Zone which is a strip of land 10 miles wide extending across the Isthmus, having a width of approximately five miles each side of the center line of the canal. In connection with the operation of the canal, all necessary supplies are furnished to vessels using the canal.

*General publications.*—(a) Official Handbook of the Panama Canal. Topics: Distances saved; How a vessel is handled through the canal; Facilities for shipping; Saving in cost of operation by use of canal; Panama Canal tolls; The use of canal by sailing ships; The canal and the Navy; Features of construction; Traffic routes.

(b) Pamphlet containing sailing directions and general information regarding the Panama Canal. Topics: Quarantine regulations; Customs regulations; Tonnage certificates; Measurement; Tolls; Deposits, etc.; Agents and other information concerning shipping; Supplies and services; Rules and regulations governing the navigation of the canal; Radio regulations; Signals and signal stations; Aids to Navigation; Courses and distances, Panama Canal; Sailing directions, Atlantic entrance; Sailing directions, Pacific entrance; Tables of distance and time saved by Panama Canal route.

(c) Manual giving complete information concerning employments for the Panama Canal service. Topics: Civil-service examination; Excepted from civil-service examination; Transfers; Citizenship; Age limits; Physical examination; Promotions; Working hours; Payment of salaries; Steamship transportation; Positions and wages; Tool list; Uniforms; General conditions of employment; Climate; Health conditions; Clothing required; Quarters; Meals; and Commissary.

(d) Miscellaneous. In addition to the foregoing, the Panama Canal has in the past published various pamphlets, bulletins, and reports regarding the canal, which are used in replying to certain inquiries upon specific subjects, but which it is not desired to list, as the supply of same is now very limited. Furthermore, in some instances the subjects discussed are now obsolete, affecting the construction of the canal and the early history of the work.

(e) Panama Canal Tariff No. 2. Contains schedule of rates for supplies and services furnished to shipping and allied interests at the Panama Canal.

*Method of distribution of general publications.*—The publications referred to above are distributed free upon request.

*Annual and other periodical publications.*—(a) Annual Report of the Governor of the Panama Canal contains a résumé of the operations of the various departments of the Panama Canal for each fiscal year, accompanied by illustrations and drawings. The price of this report is \$1 for paper-bound and \$1.50 for cloth-bound copies.

(b) Quarterly Report of the Department of Health of the Panama Canal, contains a report of the operations of the Department of Health of the Panama Canal for each quarter.

(c) Annual Report of the Department of Health of the Panama Canal. Contains a summary of the operations of the Department of Health for each calendar year.

(d) The Panama Canal Record. This publication is issued weekly on the Isthmus, being the official organ of the Panama Canal. It is used primarily for the publication of general information concerning traffic through the canal, as well as of executive orders, special circulars, official notices, advertisements, shipping news, and statistics of canal traffic. A subscription rate of \$1, domestic, and \$1.50 per year, foreign, is maintained for this paper.

(e) *Miscellaneous.* In addition to the foregoing, the Panama Canal from time to time issues circulars or brief publications giving information concerning conditions on the Isthmus of special interest to owners and operators of ships using the canal, such as notices to mariners, facilities and supplies available for shipping, prices for services and supplies, information concerning repair shops, dry docks, etc. These circulars, however, as above indicated, are furnished only to those who are likely to be especially interested therein, such as those who direct the movement of vessels using the canal.

*Mailing lists.*—A mailing list is maintained for the quarterly and annual reports of the Department of Health, and the same are furnished free to medical libraries, societies, and physicians interested therein. A free mailing list for the Panama Canal Record is maintained for public libraries, being furnished upon request.

*Maps.*—This office has for free distribution a map showing the Isthmus with completed canal. Other maps are included in reports referred to.

*Correspondence.*—Requests for publications should be addressed to "Chief of Office, The Panama Canal, Washington, D. C."

## FEDERAL RESERVE BOARD.

*Principal administrative officials.*—Secretary of the Treasury (ex officio), Comptroller of the Currency (ex officio), Governor, Vice Governor, three additional members, Secretary, Assistant Secretary and Fiscal Agent, Counsel, Assistant Counsel, Chief of Division of Audit and Examination, Chief of Division of Statistics, Chief of Division of Issue, Director of Division of Foreign Exchange.

### FEDERAL RESERVE CITIES.

District No. 1, Boston, Mass.; District No. 2, New York City; District No. 3, Philadelphia, Pa.; District No. 4, Cleveland, Ohio; District No. 5, Richmond, Va.; District No. 6, Atlanta, Ga.; District No. 7, Chicago, Ill.; District No. 8, St. Louis, Mo.; District No. 9, Minneapolis, Minn.; District No. 10, Kansas City, Mo.; District No. 11, Dallas, Tex.; District No. 12, San Francisco, Cal.

### FEDERAL RESERVE DISTRICTS.

District No. 1.—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and all of Connecticut except the county of Fairfield.

District No. 2.—The State of New York and the northern part of the State of New Jersey and the county of Fairfield in the State of Connecticut.

District No. 3.—Southern part of New Jersey, the State of Delaware, eastern part of Pennsylvania.

District No. 4.—Ohio, western part of Pennsylvania; Marshall, Ohio, Brooke, Hancock, Wetzel, and Tyler Counties, W. Va.; eastern part of Kentucky.

District No. 5.—District of Columbia, Maryland, Virginia, North Carolina, and South Carolina; all of West Virginia except Marshall, Ohio, Brooke, Hancock, Wetzel, and Tyler Counties.

District No. 6.—Alabama, Georgia, and Florida, eastern part of Tennessee, southern part of Mississippi, southern part of Louisiana.

District No. 7.—Iowa; southeastern part of Wisconsin; all of the southern peninsula of Michigan, viz, that part east of Lake Michigan; northern part of Illinois; northern part of Indiana.

District No. 8.—Arkansas; eastern part of Missouri; southern parts of Illinois and Indiana; western part of Kentucky; western part of Tennessee; northern part of Mississippi.

District No. 9.—Montana, North Dakota, South Dakota, and Minnesota; northern parts of Wisconsin and Michigan.

District No. 10.—Kansas, Nebraska, Colorado, and Wyoming; western part of Missouri; all of Oklahoma except the counties of Atoka, Bryan, Choctaw, Coal, Johnston, McCurtain, Marshall, and Pushmataha; northern part of New Mexico.

District No. 11.—Texas; southern parts of New Mexico and Oklahoma not included in district No. 10; southern part of Louisiana not included in district No. 6; and eastern Arizona.

District No. 12.—California, Washington, Oregon, Idaho, Nevada, and Utah; western part of Arizona.

*General information and duties.*—Generally speaking, the functions of the board are to exercise a broad supervision over the affairs and conduct of 12



Federal reserve banks established in accordance with the terms of the Federal reserve act in different parts of the country and invested with authority to discount paper for member banks, issue Federal reserve notes to member banks, and perform the various banking functions described in the act itself. The board has full power to appoint its own staff of employees and officers and to regulate the conditions of their employment. Its support is derived from the several reserve banks from assessments levied by it half yearly pro rata. The board is responsible to Congress and reports annually to that body. Certain functions in connection with the national banking system are also assigned to it under the legislation, although the Comptroller of the Currency, who is a member of the board, exercises the same general administrative and supervisory authority over the national banks that has been in his hands in the past. It also passes upon applications under the Clayton Act as amended.

Some of the more important duties of the Federal Reserve Board are set forth in section 11 of the Federal reserve act, which provides that the Federal Reserve Board shall be authorized "to examine at its discretion the accounts, books, and affairs of each Federal reserve bank and of each member bank, and to require such statements and reports as it may deem necessary; to permit or, on the affirmative vote of at least five members of the Reserve Board, to require Federal reserve banks to rediscount the discounted paper of other Federal reserve banks at rates of interest to be fixed by the Federal Reserve Board; to suspend for a period not exceeding 30 days, and from time to time to renew such suspension for periods not exceeding 15 days, any reserve requirement specified in this act; to supervise and regulate through the bureau under the charge of the Comptroller of the Currency the issue and retirement of Federal reserve notes, and to prescribe rules and regulations under which such notes may be delivered by the comptroller to the Federal reserve agents applying therefor; to add to the number of cities classified as reserve and central cities under existing law in which national banking associations are subject to the reserve requirements set forth in section 20 of this act; to suspend or remove any officer or director of any Federal reserve bank, the cause of such removal to be forthwith communicated in writing by the Federal Reserve Board to the removed officer or director and to said bank; to require the writing off of doubtful or worthless assets upon the books and balance sheets of Federal reserve banks; to suspend, for the violation of any of the provisions of this act, the operations of any Federal reserve bank, to take possession thereof, administer the same during the period of suspension, and, when deemed advisable, to liquidate or reorganize such bank; to require bonds of Federal reserve agents; to exercise general supervision over said Federal reserve banks; to grant by special permit to national banks applying therefor, when not in contravention of State or local law, the right to act as trustee, executor, administrator, or registrar of stocks and bonds under such rules and regulations as the said board may prescribe."

**General publications.**—Federal Reserve Bulletin is a monthly containing matters of interest to officers and member banks of the Federal Reserve System.

**Distribution.**—The bulletin is supplied to officers and members of the Federal Reserve System without charge. To others the price is \$2 per year, or 20 cents per copy. Foreign postage, when necessary, is required.

**Annual publications.**—The Annual Report is issued in January or February of each year and is distributed without cost.

**Indexes.**—The Index to the Federal Reserve Bulletin for the year is printed in the December number. The Index Digest of the Federal Reserve Act is sold at \$1, paper cover.

**Mailing list.**—There is no free mailing list, except of the officers of the Federal Reserve System, noted above.

**Correspondence.**—Requests for publications should be addressed to "Secretary, Federal Reserve Board, Washington, D. C."

## FEDERAL TRADE COMMISSION.

**Principal administrative officials.**—Commissioners, Chairman, Vice Chairman, and three additional members. Administrative Department: Secretary, Assistant Secretary, Chief Clerk, Disbursing Clerk, Appointment Clerk, Docket Division, Division of Mails and Files, Publication Division, Stenographic Division, Library. Economic Department (Advisory Economic Board): Chairman,

two Additional Members. Legal Department: Board of Review: Chairman, two members; Chief Counsel, Chief Examiner.

*General information and duties.*—"An act to create a Federal Trade Commission, to define its powers and duties, and for other purposes," approved September 23, 1914, provides for a commission consisting of five members. Further specific powers are conferred upon this commission by "An act to supplement existing laws against unlawful restraints and monopolies, and for other purposes" (commonly known as the Clayton Act), approved October 15, 1914.

#### INVESTIGATION, PUBLICITY, AND RECOMMENDATION.

The commission is authorized to require corporations subject to its jurisdiction to file annual or special reports, or both, in such form as may be prescribed by the commission, or written answers to specific questions regarding the organization and management of their business, or their relations to other corporations, partnerships, or individuals. Furthermore, the commission is authorized to classify such corporations, and to make rules and regulations for the purpose of carrying out the provisions of the act. (Sec. 6, pars. b and g.)

The commission is given also a general power of investigation in respect to such corporations and their relations to other corporations, individuals, associations, and partnerships. (Sec. 6, par. a.)

Upon the direction of the President or either House of Congress, the commission is authorized to investigate and report concerning any alleged violations of the antitrust acts by any corporation. (Sec. 6, par. d.)

The commission is also authorized to investigate trade conditions in foreign countries with respect to combinations or other conditions affecting the foreign trade of the United States. (Sec. 6, par. h.)

Certain other functions of the commission combine with investigating the duty of making particular recommendations.

If, in any suit in equity brought by the Government under the antitrust acts, upon the conclusion of the testimony the court is of the opinion that the complainant is entitled to relief, it may refer the matter to the commission as a master in chancery to ascertain and report an appropriate form of decree. (Sec. 7.)

The commission is empowered, upon the application of the Attorney General, to investigate the business of any corporation alleged to be violating the antitrust acts, and to make recommendations for readjustment which shall bring it in harmony with the law. (Sec., 6 par. e.)

Whenever a final decree has been entered against any corporation in a suit to restrain violations of the antitrust acts, the commission is authorized to make an investigation of the manner in which the decree is carried out, and it is required to make such investigation upon the application of the Attorney General. In the latter case it is required to transmit a report of its findings and recommendations to the Attorney General, and may publish such report in its own discretion. (Sec. 6, par. c.)

The commission is authorized to make public such portions of the information obtained by it in accordance with law as it shall deem expedient in the public interest, except trade secrets and the names of customers, and, further, to make annual and special reports to Congress with recommendations for legislation, and to provide for the publication of its reports and decisions. (Sec. 6, par. f.) It is specially provided (sec. 10) that any officer or employee of the commission who, without its authority, shall make public any information obtained shall be guilty of a misdemeanor and be punishable by fine and imprisonment.

#### QUASI JUDICIAL FUNCTIONS.

Both the Trade Commission Act and the Clayton Act declare certain important rules of substantive law and direct the Federal Trade Commission to enforce these rules in regard to the following: Unfair methods of competition; price discrimination; tying contracts; holding companies; interlocking directorates; enforcement of the prohibitions of the Clayton Act.

*Relations of the commission to legislative, judicial, and other executive departments.*—The Federal Trade Commission is organized in a manner similar to that of the Interstate Commerce Commission, and its relations to the legislative, judicial, and other executive departments of the Government are defined in the law.

## PUBLICATIONS.

*General publications.*—The commission publishes special reports, most of them being in response to Congressional resolutions. A complete list of publications thus far issued is as follows:

(a) Report of the Federal Trade Commission on Pipe-Line Transportation of Petroleum.

(b) Report of the Federal Trade Commission on Trade and Tariffs in Brazil, Uruguay, Argentina, Chile, Bolivia, and Peru.

(c) Helpful Activities to Strengthen American Business.

(d) Preliminary Report of the Federal Trade Commission Relative to an Investigation of Gasoline Prices.

(e) Concluding Chapter of above Report.

(f) Report of the Federal Trade Commission on the Fertilizer Industry.

(g) Fundamentals of a Cost System for Manufacturers.

(h) A System of Accounts for Retail Merchants.

(i) Summary of the Report of the Federal Trade Commission on Cooperation in American Export Trade. Copies may be secured at \$1.15 each from the Superintendent of Documents, Government Printing Office, Washington, D. C.

(a) to (h) are available for free distribution.

The Bureau of Corporations, which was succeeded by the Federal Trade Commission, issued a large number of reports, most of which can be purchased from the Superintendent of Documents. The following subjects are treated in these reports: Beef industry; Cotton exchanges; Cotton tare; Farm Machinery Trade Association; Fertilizer industry; International Harvester Co.; Interstate Commerce law; Lumber and shingles; Lumber industry in Washington; Patents; Petroleum industry and Standard Oil Company—prices and profits; State laws concerning foreign corporations; Steel industry (three parts); Taxation, corporate (six parts); Taxation (special report); Transportation by water (four parts); Transportation of petroleum; Trust laws and unfair competition; Tobacco industry; Tobacco prices; Water-power development.

*Method of distribution of general publications.*—After the supply of documents for free distribution is exhausted, publications may be purchased from the Superintendent of Documents, Washington, D. C.

*Annual and other periodical publications.*—Annual Reports, 1915, 1916. Annual report contains the Federal Trade Commission act and the Rules of Practice Before the Federal Trade Commission, also such portions of the Clayton Antitrust Act as pertain to the Federal Trade Commission. Conference Rulings—Bulletin No. 1, containing Rulings Nos. 1-40, inclusive.

*List of publications.*—A list is available for distribution on request.

*Mailing lists.*—Carefully selected lists are maintained of those specially interested in the report of the Federal Trade Commission.

*Correspondence.*—Requests for publications should be addressed to Federal Trade Commission for those available for free distribution and to the Superintendent of Documents, Government Printing Office, Washington, D. C., for those publications for which a charge is made.

## UNITED STATES TARIFF COMMISSION.

*Principal administrative officials.*—Chairman, Vice Chairman, four additional members, Chief Clerk.

*General information and duties.*—The duties of the United States Tariff Commission, as provided by the act of September 8, 1916, are:

To investigate the fiscal and industrial effects of the customs laws of the United States;

To place at the disposal of the President, the Ways and Means Committee of the House of Representatives, and the Finance Committee of the Senate, when requested, all information at its command;

To make such investigations and report as may be requested by the President or appropriate committee of either House;

To report to Congress on the first Monday in December the methods adopted and expenses incurred and a summary of all reports made during the year.

*Powers.*—To make inquiry by one or more members or by designated agent or agents of the conduct, costs, or other relevant matters concerning any industry in the United States or in any foreign country, with inquisitorial powers in the territory of the United States or dependencies thereof.

*Publications.*—The commission has been only recently organized, and has no publications available for distribution except the following: (a) Act creating a Tariff Commission; (b) Interim Legislation; report submitted to the chairman of the Ways and Means Committee of the House of Representatives, April 16, 1917, on revenue conditions during the period between which tariff bill is enacted and date when it takes effect; (c) The Dyestuff Situation in the Textile Industries. Tariff Information Series No. 2, 29 pages; (d) Papers and Books, Schedule M, Tariff Act of October 3, 1913, 48 pages; (e) First Annual Report of the U. S. Tariff Commission, for the fiscal year ending June 30, 1917, 26 pages; (f) United States Tariff Commission, Outline of its Work and Plans, December, 1917, 13 pages. Address Chief Clerk, U. S. Tariff Commission, Washington, D. C.

## CIVIL SERVICE COMMISSION.

*Principal administrative officials and districts.*—Commissioners (President and two others); Chief Examiner; Secretary; Chiefs of Divisions; Application, Appointment, Examining.

First district.—Headquarters, Boston, Mass.; Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

Second district.—Headquarters, New York, N. Y.; New York, and northern counties of New Jersey.

Third district.—Headquarters, Philadelphia, Pa.; Pennsylvania, Delaware, and southern counties of New Jersey.

Fourth district.—Headquarters, Washington, D. C.; Maryland, West Virginia, Virginia, North Carolina, and the District of Columbia.

Fifth district.—Headquarters, Atlanta, Ga.; South Carolina, Georgia, Alabama, Florida, Mississippi, and Tennessee.

Sixth district.—Headquarters, Cincinnati, Ohio; Ohio, Indiana, and Kentucky.

Seventh district.—Headquarters, Chicago, Ill.; Wisconsin, Michigan, and the northern counties of Illinois.

Eighth district.—Headquarters, St. Paul, Minn.; Minnesota, North Dakota, South Dakota, Nebraska, and Iowa.

Ninth district.—Headquarters, St. Louis, Mo.; Kansas, Missouri, Arkansas, Oklahoma, and the southern counties of Illinois.

Tenth district.—Headquarters, New Orleans, La.; Louisiana and Texas.

Eleventh district.—Headquarters, Seattle, Wash.; Washington, Oregon, Idaho, Montana, Wyoming, and Alaska.

Twelfth district.—Headquarters, San Francisco, Cal.; California, Nevada, Arizona, New Mexico, Colorado, and Utah.

The commission is represented in Alaska by the secretary board of civil-service examiners, Juneau; in Hawaii by the secretary board of civil-service examiners, Honolulu; in Porto Rico by the chairman Porto Rican civil-service commission, San Juan; in the Canal Zone by the secretary board of civil-service examiners, Culebra; in the Philippine Islands by the director of civil service, Manila.

*General information and duties.*—The purpose of the civil-service act, as declared in its title, is "to regulate and improve the civil service of the United States." It provides for the appointment of three commissioners, not more than two of whom shall be adherents of the same political party, and makes it the duty of the commission to aid the President, as he may request, in preparing suitable rules for carrying the act into effect. The act requires that the rules shall provide, among other things, for open competitive examinations for testing the fitness of applicants for the classified service, the making of appointments from among those passing with highest grades, an apportionment of appointments in the departments at Washington among the States and Territories, a period of probation before absolute appointment, and the prohibition of the use of official authority to coerce the political action of any person or body. The act also provides for investigations touching the enforcement of the rules, and forbids, under penalty of fine or imprisonment, or both, the solicitation by any person in the service of the United States of contributions to be used for political purposes from persons in such service, or the collection of such contributions by any person in a Government building.

There were 517,805 positions in the executive civil service on June 30, 1916, of which 326,899 were classified subject to competitive examination.

Appointments of unclassified laborers in the departments at Washington and in the large cities are required to be made in accordance with regulations restricting appointment to applicants who are rated highest in physical condition. The system is outside the civil service act and rules.

Bureau of Information answers telephonic or personal inquiries regarding dates, places, and times of examinations, supplies application forms and other printed matter.

Chief Examiner supervises the system of examinations and the procedure of examining boards. The examining division and the application division are under his supervision.

Application Division issues announcements of examinations; passes upon applications; distributes publications; disbursements of appropriations; correspondence respecting admission to examinations; printing and the custody of supplies.

Examining Division prepares and rates examination papers; passes upon qualifications of applicants; issues notices of marking.

Secretary, Administrative Officer; matters relating to enforcement of civil-service act, rules, and regulations; has supervision of the appointment division.

Appointment Division keeps eligible registers and certifies for appointment; audits reports of changes in the service and maintains service records; certifies for reinstatement, transfer, and promotion; prepares for consideration of the commission cases of alleged violations of the rules and Executive orders, and prepares the general correspondence of the commission except that relating to applications and examinations.

*General publications.*—The publications of this commission relate to the subjects covered by the civil service act and rules, a compilation of which, with related statutes, legal decisions, and notes by the commission, is published at irregular intervals. Subjects mentioned below followed by an asterisk (\*) are more fully discussed in special circulars; subjects followed by a dagger (†) are fully discussed in the district manuals referred to under the fourth heading of this report:

Apportionment of appointments in Washington, D. C., by States.

Boards of examiners.

Certification and appointment.†

Civil service act and rules, related statutes, and decisions.

Civil service districts.†

Districts: Civil service.† Certification.

Eligibility (term).

Examinations: Competitive. Noncompetitive (Schedule B for original appointment and for transfer, promotion, etc.).

Excepted positions (Schedule A of positions which may be filled without examination in the different departments and offices).

Investigations of violations of law and rules.

Nonapportioned positions.

Politics and religion.

Political activity.\*

Probationary period.

Qualifications of applicants.

Ratings and eligibility.†

Reductions.\*

Regulations.

Reinstatements.\*

Removals.\*

Removal of probationers.\*

Reports of appointments, separations, etc.

Selections for appointment.

Suspensions.\*

Temporary appointments.

Testimony.

Transfers.\*

Unskilled laborers.\*

Veterans: Preferred.\* Reinstatement.\*

Publications on the following subjects are not for general distribution, but are for the information of the commission's force and boards of examiners: Information for boards of examiners and nominating officers; Conducting of investigations; Information for persons conducting investigations; Classification, assignment, and appointment of laborers; Prosecutions in connection with civil-service examinations; Civil service districts.

*Method of distribution of general publications.*—All of the first list filed noted above are distributed free.

*Annual and other publications.*—(a) The Annual Report contains the report to the President by the commission, report of the chief examiner, civil-service act and statutes relating to the civil service, the civil-service rules, various regulations, Executive orders amending the civil-service rules and making exceptions to the act, opinions of the Attorney General, statement of results of investigations of alleged violations, statistical tables, and special articles on selected subjects.

(b) Announcements of Examinations are issued, containing dates and places of examinations not held under the district system, the character and scope of each, and all information necessary for applicants.

(c) Information for Applicants for Examinations under the District System. There are 12 civil-service districts, each in charge of a secretary. The commission is also represented in Alaska, Hawaii, the Philippine Islands, Porto Rico, and Panama by persons who perform the functions of district secretaries. Pamphlets containing information similar to that contained in the semiannual manual of examinations, but relating to examinations held under the district system, are published for each civil-service district at irregular intervals. For some of the districts there is a separate publication relating to the examination for clerks and carriers in post offices.

(d) Separate publications are also published for the information of prospective applicants for the following branches of the service or positions: Navy Yard service; Engineer Department at large; Ordnance Department at large; fourth-class postmasters; rural carriers; railway mail clerks; and stenographers and typewriters.

The distribution of all manuals and circulars of information concerning examinations is free. The Annual Report, being issued in a very limited edition for the use of the commission, is on sale by the Superintendent of Documents at prices varying with the different numbers. Copies will be furnished for official use and to libraries as long as available.

*List of publications.*—No list of publications other than that contained in the annual reports under the heading "Publications of the Commission" is printed.

*Mailing lists.*—The only regular mailing lists maintained are those in connection with the distribution of examination announcements and applications for specially announced examinations, and of officials and libraries to receive the annual report.

*Correspondence.*—Requests for publications should be addressed to U. S. Civil Service Commission, Washington, D. C.

## UNITED STATES BUREAU OF EFFICIENCY.

*Principal administrative officials.*—Chief, Assistant Chief, Senior Accountant, Chief Labor-saving Devices, Chief Efficiency Ratings, Actuary, Chief Clerk.

*General information and duties.*—The duties of the Bureau of Efficiency are to establish and maintain a system of efficiency ratings for the executive departments in the District of Columbia; to investigate the needs of the several executive departments and independent establishments with respect to personnel, and to investigate duplication of statistical and other work and methods of business in the various branches of the Government service.

*Publications.*—Since its organization five years ago the bureau has prepared a large number of reports on specific problems presented to it by Congress and the heads of departments, but two of these reports have been published thus far. The bureau is required, however, to publish an Annual Report, and it has in preparation at this time several reports that will be sent to Congress.

The reports printed are: "Accounting system for the United States Indian Service," 1917, 190 pages, which gives a complete account of system, accompanied by forms and sample transactions; and "Work Performed by the Sub-treasuries," 1918, 39 pages, which shows what part of such work may be transferred to other offices of the Government and banks of the Federal Reserve System.

## UNITED STATES BOARD OF MEDIATION AND CONCILIATION.

(CREATED BY ACT OF CONGRESS APPROVED JULY 15, 1913.)

*Principal administrative officials.*—Commissioner, Assistant Commissioner, Board of Mediation and Conciliation, and two additional members, Secretary and Disbursing Officer.

*General information and duties.*—The purpose for which the Board of Mediation and Conciliation was established is to settle by mediation, conciliation, and arbitration controversies concerning wages, hours of labor, or conditions of employment that may arise between common carriers engaged in interstate transportation and their employees engaged in train operation or train service.

In any case where an interruption of traffic is imminent and fraught with serious detriment to the public interest, the Board of Mediation and Conciliation may, if in its judgment such action seems desirable, proffer its services to the respective parties to the controversy.

Whenever a controversy concerning wages, hours of labor, or conditions of employment arises between such railroads and such employees, interrupting or threatening to interrupt the operation of trains to the serious detriment of the public interest, upon the request of either party the Board of Mediation is required to use its best efforts, by mediation and conciliation, to bring about an agreement. If such efforts to bring about an amicable adjustment through mediation and conciliation are unsuccessful, the board endeavors to induce the parties to submit their controversy to arbitration, and, if successful, makes the necessary arrangements for such arbitration.

The board is an independent office, not connected with any department.

*General publications.*—Topics discussed are: Effects of arbitration proceedings on rates of pay and working conditions of railroad employees; and Arbitration and conciliation laws. Recent Bulletins: Railroad Labor Arbitrations, Senate Document No. 463, 64th Congress, 1st Session; and Railway Strikes and Lockouts, House Document No. 2117, 64th Congress, 2d Session.

*Method of distribution of general publications.*—Distributed free as long as copies are available.

*Annual and other periodical publications.*—The board is not required to publish an annual report. It has, however, published a report of its work to June 30, 1914, and a report to June 30, 1917, of the operations of the board. These are for free distribution.

*Mailing lists.*—A small free mailing list is maintained for the bulletins and annual reports issued by the board.

*Library.*—The board does not maintain a library but preserves for reference the hearings and exhibits of the various arbitrations held under the act.

*Correspondence.*—Address: Secretary, United States Board Mediation and Conciliation, Washington, D. C.

## UNITED STATES EMPLOYEES' COMPENSATION COMMISSION.

*Principal administrative officials.*—Chairman, Vice Chairman, two additional members, Secretary, Disbursing Agent.

*General information and duties.*—The act of Congress approved September 7, 1916, creating the United States Employees' Compensation Commission assures compensation to all civil employees of the Federal Government who sustain personal injuries while in the discharge of their duties, but no compensation shall be paid if the injury is caused by the willful misconduct of the employee or by his intention to bring about the injury or death of himself or of another, or if intoxication of the injured employee is the proximate cause of the injury or death.

The compensation for disability shall not be more than \$66.67, nor less than \$33.33 unless the employee's monthly pay is less than the latter amount, in which case his compensation shall be the full amount of his monthly pay.

Payment shall be made for partial disability equal to 66½ per cent of the difference between the employee's monthly pay at the time of injury and his wage-earning capacity after the beginning of partial disability.

In case of death the compensation shall be paid the widow or widower, to dependent parents or grandparents, to dependent children under the age of 18 years, and to other dependents under certain conditions.

The first compensation law in America was the Federal act of 1908 by which compensation was paid certain employees in the more hazardous service.

By the organization of this commission, compensation functions of all other commissions and independent bureaus through which compensation was formerly paid cease and determine.

By Executive orders the administration of the compensation act so far as it relates to the Panama Canal employees and employees of the Alaskan Engineering Commission has been placed under the heads of those organizations.

*Publications.*—The commission was organized in March, 1917. The only publication so far issued is the first Annual Report, covering activities during the fiscal year 1917.

## FEDERAL BOARD FOR VOCATIONAL EDUCATION.

*Principal administrative officials.*—Secretary of Agriculture (Chairman), Secretary of Commerce, Secretary of Labor, Commissioner of Education, Representative of Manufacturing and Commercial Interests (Vice Chairman), Representative of Agricultural Interests, Representative of Labor, Secretary to the Board, Chief Clerk.

*General information and duties.*—The Federal Board for Vocational Education was created by act of Congress approved February 23, 1917. This act makes appropriations to be used in cooperation with the States in the promotion of vocational education. For the fiscal year 1917-18 the amount appropriated is \$1,860,000, but the appropriation increases annually until in 1925-26 it reaches \$7,367,000, which sum is provided annually thereafter. The money so appropriated is to be given to the various States for the purpose of inaugurating or stimulating vocational education in agriculture and the trades and industries and in the preparation of teachers of vocational subjects. Its allotment is upon the condition that for each dollar of Federal money expended the State or local community, or both, in which schools are established shall expend an equal amount for the same purpose.

The duties imposed upon the board are of a twofold character: First, it is the representative of the Government appointed to cooperate with boards appointed by the States in promoting vocational education; and, second, it is required to make, or cause to have made, reports on vocational subjects. As representative of the Government, it examines the plans submitted by the various State boards containing the scheme of vocational education to be conducted by the States, and approves the same if found to be in conformity with the provisions and purposes of the act. It ascertains annually whether the several States are using, or prepared to use, the money received by them in accordance with the provisions of the statute, and each year it certifies to the Secretary of the Treasury the States which have complied with the provisions of the act, together with the amount which each State is entitled to receive. In the preparation of reports it is charged with the duty of making studies and investigations relating to the establishment of vocational schools or classes and the courses and studies to be taught therein. It is also required to make studies, investigations, and reports upon agriculture and agricultural processes and requirements upon agricultural workers; trades, industries, and apprenticeships, trade and industrial requirements upon industrial workers, and classification of industrial processes and pursuits; commerce and commercial pursuits and requirements upon commercial workers; home management, domestic science, and related facts and principles; and problems of administration of vocational schools and of courses of study and instruction in vocational subjects. The board was organized on July 17, 1918.

*Publications.*—The following publications have been issued:

Annual Report for 1917.

Bulletin No. 1, Statement of Policies.

Bulletin No. 2, Training Conscripted Men for Service as Radio and Buzzer Operators in the United States Army (International Code).

Bulletin, No. 3, Emergency Training in Shipbuilding—Evening and Part-Time Classes for Shipyard Workers.

Bulletin No. 4, Mechanical and Technical Training for Conscripted Men (Air Division, U. S. Signal Corps).

Bulletin No. 5, Vocational Rehabilitation of Disabled Soldiers and Sailors.

Bulletin No. 6, Training of Teachers for Occupational Therapy for the Rehabilitation of Disabled Soldiers and Sailors.

Bulletin No. 7, Emergency War Training for Motor-Truck Drivers and Chauffeurs.

Bulletin No. 8, Emergency War Training for Machine-Shop Occupations, Sheet-Metal Working and Pipe Fitting.

Bulletin No. 9, Emergency War Training for Electricians, Telephone Repairmen, Linemen and Cable Splicers.

Bulletin No. 10, Emergency War Training for Gas-Engine, Motor-Car, and Motor-Cycle Repairmen.

Bulletin No. 11, Emergency War Training for Oxy-Acetylene Welders.

Bulletin No. 12, Emergency War Training for Airplane Mechanics—Engine Repairmen, Woodworkers, Riggers and Sheet-Metal Workers.

Bulletin No. 13, Agricultural Education under the Smith-Hughes Act.

*Correspondence.*—All communications should be addressed to the Federal Board for Vocational Education, Washington, D. C.



## COUNCIL OF NATIONAL DEFENSE.

*Principal administrative officials.*—The Council (six members of the President's Cabinet): Secretary of War (Chairman), Secretary of the Navy, Secretary of the Interior, Secretary of Agriculture, Secretary of Commerce, Secretary of Labor. The Advisory Commission: Chairman and six other members of Commission, Director of Council and of Advisory Commission, Secretary of Council and Advisory Commission, Chief Clerk and Disbursing Officer.

*General information and duties.*—The Council of National Defense is directed by the act creating it to nominate to the President, to be appointed by him, an advisory commission consisting of not more than seven persons, each of whom possesses special knowledge of some industry, public utility, or the development of some natural resource, or is otherwise specially qualified for the performance of such duties as shall come within their jurisdiction.

It is the duty of the Council of National Defense to supervise and direct investigations and make recommendations to the President and the heads of executive departments as to the location of railroads with reference to the frontier of the United States so as to render possible expeditious concentration of troops and supplies to points of defense; the coordination of military, industrial, and commercial purposes in the location of extensive highways and branch lines of railroad; the utilization of waterways; the mobilization of military and naval resources for defense; the increase of domestic production of articles and materials essential to the support of armies and of the people during the interruption of foreign commerce; the development of seagoing transportation; data as to amounts, location, methods and means of production, and availability of military supplies; the giving of information to producers and manufacturers as to the class of supplies needed by the military and other services of the Government, the requirements relating thereto, and the creation of relations which will render possible in time of need the immediate concentration and utilization of the resources of the Nation.

The Council of National Defense adopts rules and regulations for the conduct of its work, which rules and regulations are subject to the approval of the President, and it provides for the work of the advisory commission to the end that the special knowledge of such commission may be developed by suitable investigation, research, and inquiry and made available in conference and report for the use of the council; and the council may organize subordinate bodies for its assistance in special investigations, either by the employment of experts or by the creation of committees of specially qualified persons to serve without compensation, but to direct the investigations of experts so employed.

Reports are submitted by all subordinate bodies and by the advisory commission to the council, and from time to time the council reports to the President or to the heads of executive departments upon special inquiries or subjects appropriate thereto, and an annual report to the Congress shall be submitted through the President, including as full a statement of the activities of the council and the agencies subordinate to it as is consistent with the public interest, including an itemized account of the expenditures made by the council or authorized by it, in as full detail as the public interest will permit.

*General publications.*—The following general and special reports have been issued covering some phase of the work:

- (1) First Annual Report of the Council of National Defense, for the year ending June 30, 1917.
- (2) A pamphlet giving a list of all the committees and subcommittees with their personnel under the Council of Defense. Free.
- (3) A general report of the organization and activities of the various State councils of defense, which includes State and local organization, committees, finances, coordination of clubs and societies, military establishment, relief, home defense, aliens, transportation, industrial and engineering activities, labor, supply and conservation of food, and publicity. The State Council of Defense is the official State organization for the conducting of war activities outside of the regular field of the legislature or the State executive.
- (4) Reports of particular State councils. About 30 of these individual reports have been issued. These reports have been made at the request of some section or division of the Council of National Defense or of the National Government, and as only one or two copies of the report have been made they are not available for distribution.

(5) Special reports on the activities of the various State councils in regard to some particular field. The reports issued so far of this nature cover the co-ordination of societies, home guard, and labor activities.

(6) Reports on the personnel of the various State councils, the chairman of the various committees of each State council, and the membership of the food and labor committees.

*Method of distribution of the general publications.*—The List of Committees and the General Report—(1), (2), and (3)—and such other general reports as are to be published from time to time, are distributed free to: (1) State councils; (2) various committees of the State councils; (3) divisions of the Council of National Defense; (4) other divisions and individuals who make application.

*Correspondence.*—Requests for publications should be addressed to the Secretary of the Council of National Defense, Washington, D. C.

## WAR INDUSTRIES BOARD.

The War Industries Board is composed of a Chairman, an Army officer, a Naval officer, and two civilian members, in all five members. The functions of the board are defined by the President's letter of March 4, 1918, as follows: (1) The creation of new facilities and the disclosing, if necessary the opening up, of new or additional sources of supply; (2) the conversion of existing facilities, where necessary, to new uses; (3) the studious conservation of resources and facilities by scientific, commercial, and industrial economies; (4) advice to the several purchasing agencies of the Government with regard to the prices to be paid; (5) the determination, whether necessary, of priorities of production and of delivery and of the proportions of any given article to be made immediately accessible to the several purchasing agencies when the supply of that article is insufficient, either temporarily or permanently; (6) making purchases for the allies.

## UNITED STATES SHIPPING BOARD.

*Principal administrative officials.*—Chairman and three additional members, Vice Chairman, Secretary, Director of Operations, Chief Clerk and Disbursing Officer, President of Emergency Fleet Corporation, Vice President, Treasurer, four additional Directors and Secretary. Administrative Officers of Fleet Corporation: Vice President and General Manager, Office Manager, Chief Clerk, Managers of Steel-ship Construction, Wood-ship Construction, Shipyard Plants, Contractors, and Transportation, General Purchasing Officer, General Auditor, and General Counsel.

*General information and duties.*—The act of Congress approved September 7, 1916, entitled "An act to establish a United States Shipping Board for the purpose of encouraging, developing, and creating a naval auxiliary and naval reserve and a merchant marine to meet the requirements of the commerce of the United States with its Territories and possessions and with foreign countries; to regulate carriers by water engaged in the foreign and interstate commerce of the United States, and for other purposes," provides, as a means of enforcing its provisions, for a board of five members, which is empowered to select its own secretary. The board also appoints such attorneys, naval architects, and special experts and examiners as it may find necessary to employ for the proper performance of its duties. All other employees are to be appointed in accordance with the civil-service law. It is an establishment independent of other departments of the Government, similar in this respect to the Interstate Commerce Commission.

The board is authorized to construct and equip, or to purchase, lease, or charter, vessels suitable for use as naval auxiliaries in time of war, so far as the commercial requirements of the marine trade will permit, domestic yards to be given the preference in such construction, other things being equal, and may charter, lease, or sell such vessels to any citizen of the United States, under regulations to be approved by the President. The act also empowers the board during war or any national emergency, the existence of which may be declared by proclamation of the President, to regulate the transfer to aliens of vessels registered or enrolled and licensed under the laws of the United States, and further provides that no vessel registered or enrolled and licensed under the laws of the United States, or owned by any person a citizen of the United States,

shall be sold to an alien or transferred to a foreign registry or flag without the vessel being first tendered to the board.

The board is authorized to organize one or more corporations, under the laws of the District of Columbia, for the purchase, operation, lease, charter, or sale of the vessels authorized to be constructed under the act, and places at the disposal of the board for this purpose a fund of \$50,000,000, to be obtained by the sale of Panama Canal bonds. The existence of such corporation is limited specifically to five years from the close of the present European war, which date shall be proclaimed by proclamation of the President.

The board is authorized to make investigations as to the relative cost of constructing vessels at home and abroad, to examine the rules under which vessels are constructed at home and abroad, and to investigate matters relating to marine insurance and the classification and rating of vessels. It is also empowered to examine the navigation laws of the United States, and make such recommendations to Congress as it may deem best for the improvement and revision of such laws.

The act further provides for the regulation of the operations of common carriers in both interstate and foreign commerce, defines certain terms used in connection therewith, and provides penalties for the violation of its provisions. Carriers are required to file with the board copies of such agreements, or memorandums of oral understandings, as each may have with other carriers or persons subject to the act relating to the regulation of rates, pooling of earnings, number and character of sailings between various ports, the volume or character of traffic, etc. Certain conduct by carriers or other persons subject to the act is declared to be unlawful and punishable by penalties set forth in the act.

**Publications.**—The following publications of the board are available for distribution:

(a) Shipping Act—Compilation of all laws governing the board and Emergency Fleet Corporation, together with all executive orders and proclamations affecting the board; (b) Rules of Practice—Rules of practice in proceedings under the Shipping Act; (c) Certificate of Incorporation and By-laws of the United States Shipping Board Emergency Fleet Corporation; (d) First Annual Report of the Shipping Board and the Emergency Fleet Corporation; (e) Classification of Accounts to be used in Accounting to the United States for Requisitioned Vessels Operated for Government Account; (f) Rules for the Admission of Foreign Vessels and Foreign Built Vessels under American Registry to Engage in the Coastwise Trade of the United States. General Circular No. 4; (g) Requisition Charter Party—Charter Party to be Signed by the Board and the Owners of Requisitioned Vessels, Form No. 2; (h) Time Charter Party—Government Form, Form A; (i) United States Shipping Board Special Bare Boat Charter to United States Shipping Board Emergency Fleet Corporation, Form B; (j) United States of America Time Charter—Government Form, Form C; (k) United States Shipping Board Charter Party, Form D; (l) United States Shipping Board Sailing Vessel Time Charter, Form E; (m) Form of Contract for Construction of Requisitioned Vessels.

**Correspondence.**—Address all requests for publications to Chief Clerk, Shipping Board, Washington, D. C.

#### UNITED STATES EMERGENCY FLEET CORPORATION.

**Principal administrative officials.**—Director General; Office Manager; Chief Clerk; Managers of Division; Steel-ship Construction, Wood-ship Construction, Shipyard Plants, Contracts, Transportation, General Service, Labor, and Production; General Purchasing Officer; General Auditor; General Counsel.

**General information and duties.**—The object for which the corporation was organized is stated in the articles of incorporation, as follows: "That the corporation name of this company shall be United States Shipping Board Emergency Fleet Corporation, and the object for which it is formed is the purchase, construction, equipment, lease, charter, maintenance, and operation of merchant vessels in the commerce of the United States, and in general to do and to perform every lawful act and thing necessary or expedient to be done or performed for the efficient and profitable conducting of said business, as authorized by the laws of Congress," etc.

## UNITED STATES FOOD ADMINISTRATION.

*Principal administrative official.*—The Food Administrator.

*General information and duties.*—The Food Administration is charged with the duties of carrying out the food-control law passed by the Sixty-fifth Congress, and approved by the President August 10, 1917. (Public No. 41, H. R. 4961.)

*Publications.*—Bulletin No. 1. This includes an outline of the food-control policy by the President, the appointment of Herbert C. Hoover as Food Administrator by Executive order, mobilization of voluntary forces, hearings before the Senate Committee on Agriculture and Forestry, and addresses of Mr. Hoover at Brown and Harvard Universities.

Bulletin No. 2, Women of Nation invited to sign pledge and to register, hearing before Senate Agriculture Committee, Harvard commencement address by Mr. Hoover, Reference list of Department of Agriculture bulletins.

Bulletin No. 3. Ten lessons on Food Conservation. Part I (1-5).

Bulletin No. 4. Ten lessons on Food Conservation. Part II (6-10).

Bulletin No. 5. Ten lessons on Food Conservation. Parts I and II.

Bulletin No. 6. President's Executive order creating the commission; plans for control of wheat, flour, and bread; personnel of the Fair-Price Committee, Wheat Purchasing Division (with representatives at terminals), United States Millers' Committee; Food Administration Grain Corporation authorized with capital of \$50,000,000; and food as an international problem discussed.

Bulletin No. 7, Programme and Outline as of October, 1917.

Bulletin No. 8, Commodity Licensing. Outline of control methods based on President's proclamation of October 10.

Bulletin No. 9, General Statement as of August, 1917. (Out of print.)

Bulletin No. 10, Grain and Live Stock Policy.

Bulletin No. 11, The Standard Loaf. Summary of wheat flour bread problem as of December, 1917. (Out of print.)

Bulletin No. 12, Wheat Conservation Programme as of January, 1918. (Out of print.)

Bulletin No. 13, Food Value of Milk, April, 1918.

Bulletin No. 14, Household Wheat Programme as of April, 1918.

Bulletin, "The Prussian System"—Germany's starvation policy.

Bulletin, "Wheat Needs of the World," including summary of conditions in France.

Bulletin, "War Economy in Food," including recipe material.

The following United States Food Leaflets, issued jointly by the Department of Agriculture and the Food Administration, have been issued: No. 1, Start the Day Right with a Good Breakfast; No. 2, Do You Know Corn Meal?; No. 3, A Whole Dinner in One Dish; No. 4, Choose Your Food Wisely; No. 5, Make a Little Meat Go a Long Way; No. 6, Do You Know Oatmeal?; No. 7, Food for Your Children; No. 8, Instead of Meat; No. 9, Vegetables for Winter; No. 10, Plenty of Potatoes; No. 11, Milk, the Best Food We Have; No. 14, Dried Beans and Peas; No. 15, Save Sugar.

All bulletins available for free distribution.

*Distribution of publications.*—All bulletins for free distribution as long as available.

*Correspondence.*—Requests for publications should be addressed to Food Administration, Washington, D. C.

## UNITED STATES FUEL ADMINISTRATION.

*Principal administrative officials.*—Fuel Administrator; Assistant Fuel Administrator; Executive Secretary; Directors of Divisions: Distribution, Conservation, Legal, States Organization, Fuel Oil and Educational. Each State has a State Fuel Administrator.

*General information and duties.*—The Fuel Administration is charged under the act of Congress approved August 10, 1917, entitled "An act to provide further for the national security and defense by encouraging the production, conserving the supply and controlling the distribution of food products and fuel." with the regulation of prices of fuel and the proper distribution of the same.

*General publications.*—There have been about 25 pamphlets issued by the Fuel Administration, giving prices and classification of coal, description of the work of

the Fuel Administration, regulations of the Fuel Administrator and information in regard to shipment and distribution of coal and coke, and a description of the Zone System for the distribution of coal.

*Method of distribution.*—The pamphlets are for free distribution as long as copies of the various editions are available.

*Annual and periodical publications.*—The Fuel Administration has not yet issued an annual publication and no periodical publications are issued.

*Maps.*—Publication No. 21-A contains a series of 13 maps of the bituminous coal zones of the United States.

*Correspondence.*—Requests for publications should be made to Director of Educational Division, Fuel Administration, Washington, D. C.

## WAR TRADE BOARD.

*Principal administrative officials.*—The board is composed of a chairman (representing the State Department), and one representative each of the Treasury and Agriculture Departments, two representatives of the Department of Commerce, a representative of the Food Administration and a representative of the Shipping Board, total seven members; Counselor and Secretary; Directors of the Bureaus of Exports, Imports, War Trade Intelligence, Transportation, Administration, Research, Tabulation and Statistics, Foreign Agents and Reports, and Enemy Trade.

*General information and duties.*—The War Trade Board was created by an Executive order of the President, dated October 12, 1917, which established a board "to be composed of representatives, respectively, of the Secretary of State, of the Secretary of the Treasury, of the Secretary of Agriculture, of the Secretary of Commerce, of the Food Administrator, and of the United States Shipping Board." The War Trade Board succeeded to all of the functions of the Exports Administrative Board, which was established by an Executive order of August 21, 1917.

*Exports.*—The Executive order of October 12, 1917, vested in the War Trade Board the executive administration of Title VII of the espionage act, approved June 15, 1917, which provides that, upon the issuance of a proclamation of the President, "it shall be unlawful to export from or ship from or take out of the United States to any country named in such proclamation any article or articles mentioned in such proclamation, except at such time or times, and under such regulations and orders, and subject to such limitations and exceptions as the President shall prescribe." Under these provisions of the statute and the Executive order referred to, the board has full power and authority to issue or withhold or refuse licenses for the exportation of all articles (except coin, bullion, or currency) whose exportation may be controlled by any proclamation issued by the President in pursuance of Title VII of the espionage act.

*Imports.*—Section 11 of the "trading with the enemy act" approved October 6, 1917, provides that "whenever during the present war the President shall find that the public safety so requires and shall make proclamation thereof it shall be unlawful to import into the United States from any country named in such proclamation any article or articles mentioned in such proclamation except at such time or times, and under such regulations or orders, and subject to such limitations and exceptions as the President shall prescribe." The executive administration of these statutory provisions is confided to the War Trade Board, and the Executive order of October 12, 1917, has vested in the board full power and authority to issue or withhold or refuse licenses for the importation of all articles whose importation may be controlled by any proclamation issued under section 11 of the "trading with the enemy act."

*Enemy trade.*—Section 3 (a) of the "trading with the enemy act" makes it unlawful for any person in the United States, except under the license of the President, "to trade or attempt to trade, either directly or indirectly, with, to, or from, or for, on account of, or on behalf of, or for the benefit of, any other person with knowledge or reasonable cause to believe that such other person is an enemy or ally of enemy" (as defined in the act) "or is conducting or taking part in such trade, directly or indirectly, for, or on account of, or on behalf of, or for the benefit of, an enemy or ally of enemy." Section 4 (e) of the act makes it unlawful for any enemy or ally of enemy to continue to do business in the United States except under, and in accordance with the

terms of the license of the President. The power and authority to issue licenses for the acts, which are prohibited by the foregoing provisions of the "trading with enemy act," and to prescribe the terms and conditions of such licenses are likewise vested in the War Trade Board by the Executive order of October 12, 1917; and this order grants to the board similar power to issue licenses permitting an enemy or ally of enemy or partnership of which an enemy or ally of enemy is or was a member at the beginning of the war to "assume or use any name other than that by which such enemy or partnership was ordinarily known at the beginning of the war," an act which is made unlawful, except under license from the President, by section 4 (b) of the act.

*General publications.*—The publications so far issued include: (a) "Rules and Regulations of the War Trade Board;" (b) "Directory of the War Trade Board," which has an organization of some 1,500 persons; (c) press notices, which are issued through the Committee on Public Information to the daily press, and also are published in Commerce Reports of the Department of Commerce; (d) a manual, which is now in course of preparation and is intended for all shippers and importers who will be interested; (e) "Enemy Trading Lists," prepared by the War Trade Board, containing a list of the firms as are indicated by the title.

*Method of distribution of publications.*—General publications are distributed by mail gratuitously.

*Annual and other periodical publications.*—"Journal of the War Trade Board," which is issued at intervals of from one to two weeks, and sent free to all on the regular mailing list of War Trade Board; others can obtain copies from Superintendent of Documents.

*List of publications.*—A list of our publications is available for distribution.

*Mailing lists.*—A mailing list, consisting of 16,000 names, of industrial and commercial organizations interested in exports and imports, to whom our publications are sent without charge, is maintained.

*Correspondence.*—Requests for publications should be made to the Division of Information, War Trade Board, Washington, D. C.

## NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

*Principal administrative officials.*—Chairman; Chairman Executive Committee; Secretary; Assistant Secretary; Special Disbursing Agent.

*General information and duties.*—The National Advisory Committee for Aeronautics was appointed by the President, pursuant to act of Congress approved March 3, 1915 (naval appropriation act, public No. 273, Sixty-third Congress). Its membership consists of two officers of the Army, two officers of the Navy, a representative each of the Smithsonian Institution, the United States Weather Bureau, and the United States Bureau of Standards, together with one member from the Treasury Department and four professors from various universities who are acquainted with the needs of aeronautical science, or skilled in aeronautical engineering or its allied sciences. All the members, as such, serve without compensation.

The duties of the committee, as provided by Congress, are to supervise and direct the scientific study of the problems of flight, with a view to their practical solution, and to determine the problems which should be experimentally attacked, and to discuss their solution and their application to practical questions. The committee's research laboratory and experimental station is located at Langley Field, Virginia.

Meetings of the full committee are held semiannually, in April and October, and meetings of the executive committee, to which is delegated full power, are held monthly, or oftener, as may be necessary.

*General publications.*—(a) General Specifications Covering Requirements of Aeronautic Instruments (Report No. 8). (b) Nomenclature for Aeronautics (Report No. 9).

*Method of distribution of general publications.*—Free, through this office.

*Annual and other periodical publications.*—First, Second, and Third Annual Reports. Sold through Superintendent of Documents and distributed free through this office. Sale price, First Annual Report, 30 cents; Second Annual Report, \$1.

The First Annual Report contains the following technical reports: No. 1. Report on behavior of aeroplanes in gusts, by the Massachusetts Institute of

Technology; No. 2, Report on investigation of Pitot tubes, by the United States Bureau of Standards; No. 3, Report on investigations of aviation wires and cables, their fastenings and connections, by John A. Roebbling's Sons Co.; No. 4, Preliminary report on the problem of the atmosphere in relation to aeronautics, by Prof. Charles F. Marvin; No. 5, Report on relative worth of improvements on fabrics, by Goodyear Tire & Rubber Co.; No. 6, Report on investigation of balloon and aeroplane fabrics, by the United States Rubber Co.; No. 7, Report on thermodynamic efficiency of present types of internal-combustion engines for aircraft, by Columbia University.

The Second Annual Report contains the following technical reports: No. 8, General specifications covering requirements of aeronautic instruments; No. 9, Nomenclature for aeronautics; No. 10, Mufflers for aeronautic engines; No. 11, Gasoline carbureter design; No. 12, Experimental researches on the resistance of air.

The Third Annual Report contains the following publications: No. 13, Meteorology and aeronautics; No. 14, Experimental research on air propellers; No. 15, Nomenclature for aeronautics; No. 16, The stretching of the fabric and the deformation of the hull in full balloons; No. 17, An investigation of the elements which contribute to statical and dynamical stability and of the effects of variation in those elements; No. 18, Aerofolls and aerofoll structural combinations; No. 19, Periodic stresses in gyroscopic bodies with application to air screws; No. 20, Aerodynamic coefficients and equivalents in different systems of units; No. 21, Theory of an airplane encountering gusts, II; No. 22, Fabrics for aeronautic construction; No. 23, Aeronautic power plant investigations.

*Mailing lists.*—A free mailing list is maintained for all publications. Applications should be made to committee.

*Correspondence.*—Requests for publications should be addressed to the Assistant Secretary, National Advisory Committee for Aeronautics, Washington, D. C.

## THE AIRCRAFT BOARD.

*Principal administrative officials.*—Chairman, Vice Chairman, Chief Signal Officer of Army, Chief Constructor of Navy, two Colonels of the Signal Corps, Army, Captain, U. S. Navy and Lieutenant Commander; Secretary to Board.

*General information and duties.*—Supervise and direct in accordance with the requirements prescribed or approved by the respective departments, the purchase, production and manufacture of aircraft and accessories, ordnance and materials; to make recommendation as to contracts and their distribution in connection with the foregoing.

*General publications.*—No publications available for distribution have been issued by this board at the present time.

## ALIEN PROPERTY CUSTODIAN.

*Principal administrative officials.*—Alien Property Custodian, Managing Director, Directors of Bureaus of Administration, Trusts, Investigation and General Counsel.

*General information and duties.*—The President has delegated to the Alien Property Custodian the following powers and duties under the trading with the enemy act:

The executive administration of all the provisions of section 7 (a), section 7 (c), and section 7 (d), including power to require reports and extend the time for filing the same, conferred upon the President by the provisions of section 7 (a) and including the power conferred upon the President by the provisions of section 7 (c), to require the conveyance, etc., to the Alien Property Custodian at such time and in such manner as he shall require, of any money or other properties owing to or belonging to or held for or on account of any enemy or ally of an enemy not holding a license granted under the provisions of the trading with the enemy act which, after investigation, said Alien Property Custodian shall determine is so owing, etc.

The Alien Property Custodian is required by the trading with the enemy act to deposit all moneys coming into his hands in the Treasury of the United States, to be invested by the Secretary of the Treasury in United States bonds or certificates of indebtedness. With respect to all other property the Alien Property Custodian has all the powers of a common-law trustee. All

or properties are to be conserved during the war and after the end of the war shall be disposed of as Congress shall direct.

*General publications.*—As this bureau has been but recently organized, there are no general publications available for distribution, except: (1) The Act to define, regulate, and punish trading with the enemy, and for other purposes. Approved October 6, 1917, Public No. 91, 65th Congress.

(2) Leaflets prepared by the managing directors for the general public, describing the powers and duties of the Alien Property Custodian.

(3) Circular of Information.—A. P. C.—97, and sets of forms used by the Alien Property Custodian.

*Method of distribution.*—The general publications noted above are available for free distribution.

*Annual reports.*—The only report so far issued is the Annual Report for the year 1917 containing 19 pages and printed as H. Doc. No. 840, 65th Cong., 2d session.

*Mailing Lists.*—There are no mailing lists at present, but the several depositaries throughout the country and in the Insular possessions are advised from time to time of rulings made.

*Correspondence.*—All communications requesting information should be addressed to the Alien Property Custodian, Washington, D. C.

## THE INTERNATIONAL JOINT COMMISSION.

*Principal officials of each country.*—United States Section: Chairman and two other members, Secretary, Counsel for United States. Canadian Section: Chairman and two other members, Secretary, Counsel for Canada.

*General information and duties.*—The International Joint Commission was created by treaty with Great Britain, and has jurisdiction over all cases involving the use or obstruction or diversion of waters forming the international boundary or crossing the boundary between the United States and Canada. In addition, under Article IX of the treaty, any questions or matters of difference arising between the high contracting parties involving the rights, obligations, or interests of the United States or of the Dominion of Canada, either in relation to each other or to their respective inhabitants, may be referred to the commission for report thereon by either Government or by the joint action of the two Governments. Under Article X of the treaty similar matters of difference between the two Governments may be referred to the commission for determination by the joint action of the two Governments. It is not a part of any executive department except to the extent of having its appropriation disbursed under the direction of the Secretary of State.

*General publications.*—The list of topics discussed in its publications are confined to the cases which come before it for settlement, and in the main relate to changes in the levels of the boundary waters. In this respect it is similar to any court of law whose subjects or topics are confined to the cases filed before it. The list of cases to date includes: Kettle Falls, Watrous Island Boom, St. Marys River Power, Shoal Lake Diversion, St. Croix River Power, St. Mary and Milk Rivers, Livingstone Channel, Pollution of Boundary Waters, and Lake of the Woods Investigation.

*Distribution of publications.*—All publications are distributed free, as long as copies are available.

*Annual publications.*—There are no annual publications. Whether the publication be a final report in an investigation, a report of testimony taken, or arguments of counsel or a decision, or whatever its character, it is published as soon after completed as possible.

*List of publications.*—A list of publications to date has recently been issued. No monthly list is printed.

*Mailing lists.*—A mailing list for each case or investigation is maintained and a general mailing list to receive all publications printed.

*Maps.*—In the investigations of the levels of the Lake of the Woods, which are about completed, a considerable portion of the territory was surveyed, and maps covering the portions surveyed were published, including about 40 different maps. This is the only case to date where the commission has prepared maps, and it was done in order to carry out the terms of the reference submitted by the two Governments.

*Correspondence.*—All communications should be addressed to the Secretary, International Joint Commission, Washington, D. C.



**INTERNATIONAL (MEXICAN) BOUNDARY COMMISSION.**

*Principal administrative officials.*—American Section: Commissioner, Consulting Engineer, Secretary, Disbursing Officer.

*Publications.*—Report of the Boundary Commission upon the Survey and Remarking of the Boundary between the United States and Mexico West of the Rio Grande, 1891 to 1896. Published in four volumes. (Report, illus., 2 vols., vol. 1, illus.; 240 pages; maps (26), 1 vol.; engravings (258 illus.), 1 vol.) This report is not available for general distribution, but can be consulted at the Library of Congress and at that of the State Department.

**COMMISSION FOR EQUITABLE DISTRIBUTION OF WATERS OF THE RIO GRANDE.**

*Principal administrative officials.*—Commissioner, Engineer and Disbursing Officer.

*General information and duties.*—This commission was authorized by the protocol of May 6, 1896, between Mexico and the United States, and their treaty of 1848, article 21 (reaffirmed in 1853, article 7; 1894, article 5; and 1899, article 8), authorizing the appointment of "commissioners" to settle "any disagreement" or "differences" between the two countries. It is commonly called "Commission for the Equitable Distribution of the Waters of the Rio Grande"—the boundary for about 1,300 miles between these two nations. Its chief functions are "to study the questions in connection with the distribution of the waters of the Rio Grande," for the purpose of devising the best mode of controlling and conserving the waters of the Rio Grande, and for the making of a treaty on the subject between the two Republics, and in the meantime to measure and equitably divide the waters of and in the Rio Grande between the two countries, to lessen or avoid international complications and local dissensions between Mexico and the United States and the people thereof. (See Diplomatic and Consular appropriation act approved June 30, 1914.)

*Publications.*—(1) Proceedings of the International (Water) Boundary Commission, United States and Mexico, Treaties of 1884 and 1889. Equitable Distribution of the Waters of the Rio Grande. In 2 large volumes, illustrated, with maps. Vol. 1, pp. 1-227; vol. 2, pp. 228-438, with index. This publication is not available for general distribution but can be consulted at the Library of Congress and that of the State Department.

(2) Silt in the Rio Grande, by W. W. Follett. 102-page pamphlet, with diagrams and tables in regard to quantity of silt in Rio Grande. Not available for distribution. Copies can be consulted in Library of Congress and that of the State Department.

**INTERNATIONAL (CANADIAN) BOUNDARY COMMISSIONS.****FOR DEFINING AND MARKING BOUNDARY BETWEEN UNITED STATES AND CANADA, EXCEPT ON GREAT LAKES AND ST. LAWRENCE RIVER. FOR MARKING AND SURVEYING BOUNDARY BETWEEN ALASKA AND CANADA.**

*Principal administrative officials.*—United States Section: Commissioner, Engineer to the Commissions, Chief Clerk and Disbursing Officer. Canadian Section: Commissioner.

*General information and duties.*—These commissions were authorized by conventions or treaties between the United States and Great Britain, as follows: 1. Southeastern Alaska, or the boundary between Alaska and British Columbia. Length, 862 miles.

Article VI of the convention between the United States and Great Britain, providing for the settlement of questions between the two countries with respect to the boundary line between the Territory of Alaska and the British Possessions in North America, signed at Washington January 24, 1903, stipulated that when the high contracting parties shall have received the decision

of the tribunal upon the questions submitted as provided in the foregoing articles, which decision shall be final and binding upon all parties, they will at once appoint, each on its own behalf, one or more scientific experts, who shall with all convenient speed proceed to lay down the boundary line in conformity with such decision.

2. The boundary between Alaska and Canada, along the one hundred and forty-first meridian. Length, 625 miles.

The convention between the United States and Great Britain providing for the surveying and marking out upon the ground of the one hundred and forty-first degree of west longitude where said meridian forms the boundary line between Alaska and the British Possessions in North America, signed at Washington April 21, 1906, stipulated that each Government shall appoint one commissioner, with whom may be associated such surveyors, astronomers, and other assistants as each Government may elect, who shall locate the boundary line, erect the necessary boundary marks, make the necessary surveys, and file duplicate records with their respective Governments.

3. The United States and Canada boundary from the Atlantic to the Pacific Ocean, with the exception of the St. Lawrence River and Great Lakes. Length 2,647 miles.

Articles I, II, III, V, VI, VII, and VIII of the treaty between the United States and Great Britain, entitled "Canadian International Boundary," signed at Washington April 11, 1908, stipulated that each of the high contracting parties shall appoint without delay an expert geographer or surveyor as commissioner, and the commissioners so appointed shall jointly execute the necessary surveys, repair existing boundary marks, erect additional boundary marks, and lay down the boundary line in accordance with the existing treaties upon quadruplicate sets of accurate modern charts, prepared or adopted by them for that purpose, and that said charts so marked shall be filed with each Government, and said commissioners shall also prepare, in duplicate, and file with each Government a joint report or reports, describing in detail the course of the boundary so marked by them, and the character and location of the several monuments and boundary marks and ranges marking it.

*Publications.*—The commissions have no publications as yet ready for distribution, either maps, books, or reports.

## THE UNITED STATES SECTION OF THE INTERNATIONAL HIGH COMMISSION.

*Principal administrative officials.*—Chairman, Vice Chairman, seven additional members, Secretary, Assistant Secretary.

*General information and duties.*—The United States section of the International High Commission received legal recognition in an act approved February 7, 1916. It consists of the nine representatives of the United States on the International High Commission. There are 19 other national sections of this commission representing the Republics of Central and South America. The commission was organized in the summer of 1915 pursuant to a recommendation of the First Pan American Financial Conference, held in Washington May 24-29, 1915. It aims to bring about greater uniformity and a more liberal spirit in the commercial law and administrative regulations in the American Republics and more stable financial relations between Latin America and the United States. Its work is coordinated and directed by a central executive council, at present composed of the chairman, vice chairman, and secretary general of the United States section (the Secretary of the Treasury, Hon. John Bassett Moore, and Dr. L. S. Rowe). Its first general meeting was held at Buenos Aires April 3-12, 1916, and future meetings will be held biennially.

By virtue of the act of February 7 the Secretary of the Treasury is ex officio chairman of the United States section and its funds are expendable under his direction. The office of the Secretary General of the United States section is in the Treasury Department at Washington.

It is proposed to hold other Pan American financial conferences from time to time for the purpose of discussing financial and trade problems and of promoting wider acquaintance among the banking and commercial communities of the Americas.

**General publications.**—The commission's publications deal with uniformity of the commercial law of the American Republics, and with the improvement of their financial and commercial relations. Its publications may be listed as belonging in the three general categories of: (a) Commercial law; (b) public finance; (c) fiscal regulations. The Secretary General has already published memoranda and treaty drafts with reference to an international gold clearance fund and with reference to the fiscal regulations governing commercial travelers; and also translations of uniform commercial laws of the United States, with commentary.

**Distribution of publications.**—Publications are furnished only upon request.

**Annual publications.**—The Office of the Secretary General has no annual publication. The report of the United States Delegation to the first general meeting of the Commission held at Buenos Aires, April 3–12, 1916, may serve as a general report of the work of the Commission up to the spring of 1916. This was published as a public document, having been transmitted to Congress by the President. A limited number of copies are available at the office of the Secretary General. The Proceedings of the First Pan American Financial Conference, a document containing the record of the meeting from which the commission emanated, may be obtained from the Superintendent of Documents, Government Printing Office, at \$1 per copy.

**Correspondence.**—Address: Secretary General, United States Section, International High Commission, Treasury Department, Washington, D. C.

## UNITED STATES GEOGRAPHIC BOARD.

### MEMBERS OF BOARD.

Hydrographic and Geodetic Engineer, Coast and Geodetic Survey, Department of Commerce, is the chairman of the board.

Geographer, Census Bureau, Department of Commerce (secretary of the board).

Chief Clerk, General Land Office, Department of the Interior (chairman executive committee).

Superintendent, Division of Salaries and Allowances, Post Office Department.

Assistant Forester, Forest Service, Department of Agriculture.

Topographer, Post Office Department.

Ethnologist in Charge, Bureau of American Ethnology, Smithsonian Institution.

Chief, Bureau of Accounts, Department of State.

Chief Geographer, Geological Survey, Interior Department.

Member Bureau of Biological Survey, Department of Agriculture.

Editor and Assistant Chief of Division, Department of the Treasury.

Chief of Proof Section, Government Printing Office.

Commissioner, Bureau of Lighthouses, Department of Commerce.

Hydrographer, Department of the Navy.

Superintendent, Library and Naval War Records Office, Department of the Navy.

Member General Staff Corps, Army, War Department.

**General information and duties.**—By Executive order of August 10, 1906, the official title of the United States Board on Geographic Names was changed to United States Geographic Board and its duties enlarged.

The board passes on all unsettled questions concerning geographic names which arise in the departments, as well as determining, changing, and fixing place names within the United States and its insular possessions, and all names suggested by any officer of the Government shall be referred to the board before publication. The decisions of the board are to be accepted by all the departments of the Government as standard authority.

Advisory powers were granted the board concerning the preparation of maps compiled, or to be compiled, in the various offices and bureaus of the Government, with a special view to the avoidance of unnecessary duplications of work, and for the unification and improvement of the scales of maps, of the symbols and conventions used upon them and of the methods of representing relief. All such projects as are of importance shall be submitted to this board for advice before being undertaken.

*Publications.*—The United States Geographic Board issues but one publication, and that is the report covering the decisions of the board. The fourth report of the board, issued several months ago, contains all of the decisions rendered from the organization of the board in 1890 to July, 1916.

These annual reports are for free distribution as long as copies are available. Requests for reports should be addressed to: Secretary of the United States Geographic Board, Washington, D. C.

## THE COMMISSION OF FINE ARTS.

*Principal administrative officials.*—Chairman, Vice Chairman, five additional members of the Commission, Secretary and Executive Officer (an Army officer), Assistant to the Secretary. (All members of the commission are nonresidents, and serve without pay.)

*General information and duties.*—By act approved May 17, 1910, Congress created as a permanent body the national Commission of Fine Arts. The commission is "composed of seven well-qualified judges of the fine arts," who are appointed by the President and serve for a period of four years each, and until their successors are appointed and qualified.

Under the provisions of this organic act Congress directs that "It shall be the duty of the commission to advise upon the location of statues, fountains, and monuments in the public squares, streets, and parks in the District of Columbia, and upon the selection of models for statues, fountains, and monuments erected under the authority of the United States and upon the selection of the artists for the execution of same. It shall be the duty of the officer charged by law to determine such questions in each case to call for such advice. The foregoing provisions of this act shall not apply to the Capitol Building of the United States and the building of the Library of Congress. The commission shall also advise generally upon questions of art when required to do so by the President or by any committee of either House of Congress."

By Executive order dated October 25, 1910, the President directed that "Plans for no public building to be erected in the District of Columbia for the General Government shall be hereafter finally approved by the officer duly authorized until after such officer shall have submitted the plans to the Commission of Fine Arts created under the act of Congress of May 17, 1910, for its comment and advice."

On February 2, 1912, the President directed the commission to advise the officer in charge of public buildings and grounds in regard to the improvement of any of the grounds in the city of Washington under his charge whenever such advice is asked for by that officer. That officer now uniformly consults the commission regarding details of the development of all the parks and reservations under his control.

On November 28, 1913, the President issued the following Executive order: "It is hereby ordered that whenever new structures are to be erected in the District of Columbia under the direction of the Federal Government which affect in any important way the appearance of the city, or whenever questions involving matters of art and with which the Federal Government is concerned are to be determined, final action shall not be taken until such plans and questions have been submitted to the Commission of Fine Arts designated under the act of Congress of May 17, 1910, for comment and advice."

In order that the development of the District of Columbia may proceed harmoniously both under Federal and District jurisdictions, the President has requested the Board of Commissioners of the District of Columbia to consult the Commission of Fine Arts on matters of art falling under their jurisdiction and control.

The duties of the commission, therefore, now embrace advising upon the location of statues, fountains, and monuments in the public squares, streets, and parks in the District of Columbia; upon the selection of models for statues, fountains, and monuments erected under the authority of the United States, and the selection of the artists for their execution; upon the plans and designs for public structures and parks in the District of Columbia, as well as upon all questions involving matters of art with which the Federal Government is concerned. In addition, the commission advises upon general questions of art whenever requested to do so by the President or any committee of Congress.

Congress has stipulated in many recent enactments that the plans for certain designated buildings, monuments, etc., must be approved by the commission before they can be accepted by the Government.

*Publications.*—The only publication regularly issued is the Annual Report for fiscal year, which deals with the decisions of the commission as to the artistic appearances of public buildings, grounds, monuments, etc. It is sent free of charge to those interested. Requests should be made to the Commission of Fine Arts, Washington, D. C.

## ARLINGTON MEMORIAL AMPHITHEATER COMMISSION.

*Principal administrative officials.*—Secretary of War (Chairman); Secretary of the Navy; Superintendent United States Capitol Building and Grounds; Representative of the Grand Army of the Republic; Commander Camp No. 171, United Confederate Veterans of the District of Columbia; Representative of the United Spanish War Veterans; Executive and Disbursing Officer; Chief Clerk.

*General information and duties.*—The commission is authorized to supervise the construction of the Memorial Amphitheater at the Arlington National Cemetery.

*Publications.*—The commission has not issued any publications available for distribution.

## NATIONAL HOME FOR DISABLED VOLUNTEER SOLDIERS.

[Headquarters: National Military Home, Dayton, Ohio.]

*Principal administrative officials.*—Board of Managers: The President, The Chief Justice, The Secretary of War, ex officio; President, Dayton, Ohio; First Vice President; Second Vice President; Secretary; Three Additional Members. Officers of the Board: General Treasurer; Assistant General Treasurer and Assistant Inspector General, Inspector General and Chief Surgeon, Assistant Inspector General.

*General information and duties.*—Homes for the volunteer soldiers of the Nation who have been disabled are maintained by the board at the following places: Central Branch, Dayton, Ohio; Pacific Branch, Santa Monica, Cal.; Northwestern Branch, Milwaukee, Wis.; Marion Branch, Marion, Ind.; Eastern Branch, Togus, Me.; Danville Branch, Danville, Ill.; Southern Branch, Hampton, Va.; Mountain Branch, Johnson City, Tenn.; Western Branch, Leavenworth, Kans.; Battle Mountain Sanitarium, Hot Springs, S. Dak.

*Publications.*—The only publication issued for general distribution is the Annual Report. Under the law the Board of Managers is required to make an annual report to Congress. This report covers in detail the accounts and operations of the home and the several branches of the home, with statistics as to membership, etc., and a record of the proceedings of the board at its several meetings during the year. This report is printed as a House document and is distributed in accordance with the law and rule of the House of Representatives. Correspondence relative to home should be addressed to Dayton, Ohio.

## UNITED STATES SOLDIERS' HOME.

(Regular Army.)

*Principal administrative officials.*—Board of Commissioners: Governor of the Home (a retired Army officer), Surgeon General of the Army, Quartermaster General of the Army, Judge Advocate General of the Army, The Adjutant General of the Army, Chief of Engineers, United States Army, Secretary of the Board of Commissioners. Officers of the Home (residing at the Home, Washington, D. C.): Governor, Deputy Governor, Secretary and Treasurer, Attending Surgeon, Executive Clerk.

*General information and duties.*—The Soldiers' Home is the place to which retired enlisted men of the Regular Army, after 20 years' service, can live free of all expense. The home was maintained previous to 1908 by a small contribution from each enlisted man in the Regular Army, but now only by fines and

forfeitures. The home is located in a reservation of about 500 acres in the northwest section of the District of Columbia, about 4 miles from the Capitol, and includes administration, dormitory, mess, hospital, and other buildings, with accommodations for 1,500 veterans.

*Publications.*—The only publication issued by the home is the annual report, published by the Secretary of War under act of Congress, and printed at the Government Printing Office. Requests for the report should be addressed to Secretary and Treasurer, U. S. Soldiers' Home, Washington, D. C.

## BOARD OF ROAD COMMISSIONERS FOR ALASKA.

(Juneau, Alaska.)

*Principal administrative officials.*—President, Engineer Officer, Disbursing Officer.

President of the Commission (a United States Army officer).

Engineer Officer (a United States Army officer).

Disbursing Officer (a United States Army officer).

*General information and duties.*—The Board of Road Commissioners for Alaska was created by the act of Congress approved January 27, 1905 (sec. 2), amended by the act approved May 14, 1906. Funds for the work are derived from a tax fund collected in Alaska and from special appropriations made by Congress through military committees. The work of the board is carried on under the direction of the Secretary of War. The War Department has fixed the organization of the board as follows:

The senior officer on duty to be designated as the president, and engineer officer shall have general charge of the operations of the board, and shall approve and certify, on behalf of the board, all vouchers and expenditures.

The assistant to president and assistant engineer officer shall supervise the work of construction in the field, as provided in the act of Congress creating the board.

The third officer shall, upon designation by the Secretary of War, as provided in the law as amended, act as secretary and disbursing officer of the board.

*Publications.*—The only publication issued by the commission is the Annual Report giving an account of the construction of roads and trails in Alaska. This report is published about November 1 of each year, and is available for free distribution, a mailing list being maintained for this purpose; and names are placed thereon by request of parties interested.

A map of Alaska, issued in 1916, is available for free distribution to the various bureaus of the Government, and is sold to others at \$1 per copy.

*Correspondence.*—Requests for publications should be addressed to Disbursing Officer, Alaska Road Commission, Juneau, Alaska.

## COMMISSION ON NAVY YARDS AND NAVAL STATIONS.

*Commissioners.*—Two Rear Admirals, United States Navy; Chief Constructor, United States Navy; two Civil Engineers, United States Navy (five members).

*General information and duties.*—Appointed by direction of the President to carry out provisions of the act of Congress approved August 29, 1916, relative to the establishment of navy yards, naval stations, and submarine and aviation bases.

*General publications.*—Preliminary Report No. 1, General Discussion of Requirements of Navy Yards, Naval Stations, Submarine and Aviation Bases, December 30, 1916; Report No. 2, Additional Navy Yard on Pacific Coast of the United States, January 24, 1917; Report No. 3, Submarine and Aviation Bases on the Southern California Coast, January 31, 1917; Report No. 4, Submarine and Aviation Bases on the Pacific Coast of the United States, May 14, 1917; Report No. 5, Final Report on Additional Navy Yard on Pacific Coast, September 29, 1917; Report No. 6, Navy Yards, Submarine and Aviation Bases on the South Atlantic and Gulf Coasts of the United States, January 15, 1918.

*Method of distribution of general publications.*—Reports have thus far only been printed for the use of Congress, and the reports are not available for general distribution at the present time.

*Correspondence.*—All communications should be addressed to Commission on Navy Yards and Naval Stations, Navy Department, Washington, D. C.

## BOARD OF INDIAN COMMISSIONERS.

*Principal administrative officials.*—Chairman and nine other members, Secretary.

*General information and duties.*—The Board of Indian Commissioners, created in 1869, is a body of unpaid citizens, appointed by the President, who maintain an office in Washington, for the expenses of which and of travel Congress appropriates. The board is not a bureau or division of any department, but is purposely kept reasonably independent and afforded opportunities for investigation in order that it may freely express an intelligent and impartial opinion concerning Indian legislation and administration. Its legal duties are to visit and inspect branches of the Indian Service, to cooperate with the Commissioner of Indian Affairs in the purchase and inspection of Indian supplies, and to report to the Secretary of the Interior, to whom and to the President the board acts in an advisory capacity, with respect to plans of civilizing or dealing with the Indians.

*General publications.*—The following is a list of publications issued:

- Report on Conditions among Fort Sill Indians. By William H. Ketcham. 1914. (Pamphlet.)  
 Report on Conditions among Mescalero Indians. By William H. Ketcham. 1914. (Pamphlet.)  
 Report on Conditions among Navajo Indians. By Samuel A. Elliot and William H. Ketcham. 1914. (Pamphlet.)  
 Report on Conditions among Papago Indians. By Samuel A. Elliot and William H. Ketcham. 1914. (Pamphlet.)  
 Report on Conditions among Pueblo Indians of New Mexico. By Samuel A. Elliot and William H. Ketcham. 1914. (Pamphlet.)  
 Report on Menominee Indian Reservation. By Edward E. Ayer. 1914. (Book, 150 pp.)  
 Administration of Indian Affairs in Canada. By F. H. Abbott. 1915. (Book, 148 pp.)  
 Report on Flathead and Fort Peck Indian Reservations. By William H. Ketcham. 1915. (Book, 93 pp.)  
 Conditions among the Indians of Northwest Coast. By Samuel A. Elliot. 1915. (Book, 28 pp.)

*Method of distribution of general publications.*—The above publications are distributed free while copies are available, but the supply is now nearly exhausted.

*Annual and other periodical publications.*—The board has printed annual reports, giving summaries of its work of visiting and inspecting Indian reservations and Indian warehouses, and also recommendations on the administration of Indian affairs from 1869 to 1917. The following Annual Reports are sold by the Superintendent of Documents, Government Printing Office: 1871, 189 pp., cloth, 25 cents; 1872, 202 pp., cloth, 30 cents; 1874, 152 pp., cloth, 25 cents; 1875, 164 pp., cloth, 25 cents; 1876, 108 pp., map, cloth, 25 cents; 1879, 129 pp., map, paper, 15 cents; 1881, 97 pp., map, cloth, 20 cents; 1882, 67 pp., map, cloth, 25 cents; 1883, 76 pp., map, cloth, 25 cents; 1884, 72 pp., map, cloth, 25 cents; 1885, 137 pp., map, cloth, 25 cents; 1887, 141 pp., map, paper, 10 cents; 1888, 132 pp., map, cloth, 25 cents; 1889, 170 pp., map, cloth, 25 cents; 1890, 196 pp., map, cloth, 25 cents; 1891, 165 pp., map, cloth, 25 cents; 1892, 169 pp., cloth, 25 cents; 1893, 158 pp., map, cloth, 25 cents; 1894, 168 pp., map, cloth, 25 cents; 1895, 120 pp., map, cloth, 25 cents; 1896, 138 pp., map, cloth, 25 cents; 1897, 84 pp., map, cloth, 25 cents; 1898, 33 pp., map, cloth, 25 cents; 1899, 130 pp., map, cloth, 25 cents; 1900, 113 pp., map, cloth, 25 cents; 1901, 82 pp., map, cloth, 25 cents; 1902, 35 pp., map, cloth, 25 cents; 1903, 31 pp., map, cloth, 25 cents; 1904, 29 pp., map, cloth, 25 cents; 1905, 25 pp., map, cloth, 25 cents; 1906, 81 pp., cloth, 30 cents; 1907, 85 pp., paper 5 cents, cloth 30 cents; 1908, 37 pp., paper, 5 cents; 1909, 29 pp., cloth, 15 cents; 1911, 13 pp., paper, 5 cents; 1912, 29 pp., paper, 5 cents; 1916, 38 pp., paper; 1917, 56 pp., paper.

*List of publications.*—No list of publications is available for distribution except Price List 24, issued by the Government Printing Office on Indians, which contains the list of the board's annual reports that are for sale.

*Mailing lists.*—Upon request names are put on a free mailing list for annual reports and any other publications that may be issued.

*Correspondence.*—Address requests for general publications and last annual report to "Secretary, Board of Indian Commissioners, Washington, D. C." Requests for earlier annual reports should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C.

## AMERICAN NATIONAL RED CROSS.

*Principal administrative officials.*—President (The President of the United States); Vice President; Treasurer (The Comptroller of the Currency), Counselor (The Solicitor of the United States); Secretary. Central Committee: Chairman (an Ex-President of the United States); Vice Chairman; seventeen additional members of the Committee. War Council: Chairman; six additional members. Administration: General Manager and Comptroller.

*General information and duties.*—The American Red Cross was organized in 1881, incorporated in 1900, and reincorporated by act of Congress under the existing charter in 1905. It is a relief organization with Government sanction, and, as such, assists the Army and Navy whenever called upon to help care for the wounded and suffering. It furnishes aid to civilians in battle-swept areas suffering directly the devastation of war. It is a medium of communication between the people of the United States of America and their Army and Navy. It also helps to maintain and strengthen the morale of American fighting forces by looking after the health and comfort of their families at home. Apart from the exigencies of war, it is the national organization for administering relief in times of disaster, flood, famine or plague.

*General publications.*—The Bureau of Publications is charged with the editing and publishing of what is known as the A. R. C. series of pamphlets. These pamphlets have serial numbers indicative of the general type of activities covered by the publications. They are in the main directions for those engaging in these activities and are published as the demand arises for them. They are distributed to the 14 division managers of the various Red Cross territorial divisions of the country and by them furnished to chapters, which, in turn, send them to their branches, auxiliaries, and individuals. They are for free distribution.

The serial numbers assigned to the pamphlets are as follows: Civilian Relief, 200-299; Military Relief, 300-399; Woman's Work, 400-499; General, 500-599; Bureau of Junior Membership, 600-699; Nursing Service, 700-799. The current publications are as follows: Department of Civilian Relief; A. R. C. 200, Home Service; A. R. C. 201, Home Service Manual; A. R. C. 202, Upbuilding the Nation's Strength; A. R. C. 203, Town and Country Nursing Service. Its purpose and scope; A. R. C. 204 (in course of preparation); A. R. C. 205, Syllabus of Instruction for Home Service Instituted; A. R. C. 206, Chapter Courses in Home Service; A. R. C. 207, Handbook of Information for Home Service Sections; A. R. C. 208, This Side the Trenches.

Department of Military Relief: A. R. C. 300, First Aid Contests; A. R. C. 301, First Aid Instruction; A. R. C. 302, Sanitary Training Detachments; A. R. C. 303, Life-Saving Corps.

Woman's Work: A. R. C. 400, Instructions for Knitting; A. R. C. 401, Surgical Dressings War Manual; A. R. C. 402, Comfort Kits; A. R. C. 403, Uniforms for Red Cross Women Workers in the United States; A. R. C. 404, Suggestions for Christmas Packets; A. R. C. 405, Hospital Garments and Supplies; A. R. C. 406, (Out of Print); A. R. C. 407, Refugee Garments—Infants; A. R. C. 408, Refugee Garments—Boys and Girls; A. R. C. 409, Refugee Garments—Adults; A. R. C. 410, Uniforms for Women in Foreign Service (in press).

General: A. R. C. 500, Chapter and By-Laws, American National Red Cross; A. R. C. 501, Annual report, December 12, 1917.

Department of Development: A. R. C. 600, Junior Membership; A. R. C. 601, Story of the Red Cross; A. R. C. 602, Manual on War Relief Activities; A. R. C. 603, Work and Spirit of the Red Cross; A. R. C. 604, A program of Junior Red Cross Service (in press); A. R. C. 605, Agriculture for Junior Red Cross.

Nursing Service: A. R. C. 700, Information for Dietitians; A. R. C. 701, Emergency Detachments; A. R. C. 702, Instructions for Nurses called upon for active service; A. R. C. 703, Information for Applicants to the Nursing Service; A. R. C. 704, Elementary Hygiene and Home Care of Sick (in press); A. R. C. 705, Home Dietetics; A. R. C. 706, (In course of preparation); A. R. C. 707, Nurses' Aids (in preparation).

The Bureau of Publicity publishes a weekly Bulletin, press notices and reports upon special activities.

*Method of distribution of general publications.*—These pamphlets are distributed from National Headquarters, Washington, D. C., only in bulk to Red Cross Division offices. Individuals desiring copies should apply to their local Red Cross Chapters.



*Annual and other periodical publications.*—(a) No annual publication except the Annual Report. This is published as an A. R. C. pamphlet and listed in the above series and also as a United States House of Representatives document.

(b) The Red Cross magazine is published monthly at Garden City, L. I., subscription price, \$2 per year.

(c) The Red Cross Bulletin is published weekly by the Bureau of Publicity at national headquarters and is issued without cost to chapters.

*List of publications.*—No list available for general distribution. No monthly list issued.

*Correspondence.*—All individual requests for these publications should be addressed to the nearest Red Cross Chapter.

## EIGHT-HOUR DAY COMMISSION.

*Principal administrative officials.*—Three Commissioners, Secretary.

*General information and duties.*—An act of Congress, approved September 3 and 5, 1916, provides that eight hours shall constitute a day's work for the purpose of reckoning the compensation of employees in railroad train service. This commission made a report to the President and to Congress regarding the operation and effects of the eight-hour standard workday dated December 29, 1917. This report was its only publication. The commission went out of existence after the report was submitted.

*Publications.*—No publications except the Report of the Eight-hour Commission, House Document 690, 65th Congress, 2d Session.

## INDUSTRIAL COMMISSION.

This commission was appointed by Congress, but is not now in existence. It held hearings and made a report on trusts and capital and labor conditions, which was published in 1902 in 19 volumes, as follows:

- Vol. 1. Preliminary report on trusts and combinations. 1589 pp., illus. \$1.
  - Vol. 2. Trusts and combinations, laws and decisions. 291 pp. 30 cents.
  - Vol. 3. Report on prison labor. 166 pp. 20 cents.
  - Vol. 4. Report on transportation with evidence. 1220 pp. 65 cents.
  - Vol. 5. Labor legislation, digest of laws. 307 pp. 30 cents.
  - Vol. 6. Distribution of farm products. 508 pp., illus. 45 cents.
  - Vol. 7. Relations of capital and labor in manufacturing and business. 1295 pp., illus. 70 cents.
  - Vol. 8. Chicago labor disputes, 1902, building and machinery trades. 777 pp. 55 cents.
  - Vol. 9. Transportation, railroad legislation, taxation. 1455 pp. \$1.
  - Vol. 10. Agriculture and agricultural labor. 1564 pp., illus. \$1.
  - Vol. 11. Agriculture, taxation, speculation, warehouse, and elevator laws. 675 pp., illus. 55 cents.
  - Vol. 12. Relations of capital and labor; mining industry. 924 pp. 70 cents.
  - Vol. 13. Trusts and industrial combinations, and prices of stocks. 1186 pp., illus. \$1.
  - Vol. 14. Relations of capital and labor, manufacturing and business. 1064 pp. 90 cents.
  - Vol. 15. Immigration and education. 1183 pp., illus. \$1.
  - Vol. 16. Foreign legislation on labor. 242 pp. 25 cents.
  - Vol. 17. Labor organizations, disputes, arbitration, railroad labor. 1309 pp. \$1.
  - Vol. 18. Industrial combinations in Europe. 343 pp. 30 cents.
  - Vol. 19. Final report. 1259 pp., with map and 8 tables. \$1.
- These reports can be obtained at the prices stated from the Superintendent of Documents, Government Printing Office, Washington, D. C.

## ANTHRACITE COAL STRIKE COMMISSION.

This commission, not now in existence, was appointed by the President in 1902 to investigate and report on the strike and mining conditions in the hard-coal mines of eastern Pennsylvania.

The only reports of this commission now available for distribution are labor bulletins issued by the former Department of Commerce and Labor, as follows:

Labor Bulletin No. 43. Report on strike, June 20, 1902. 10 cents.

Labor Bulletin No. 46. Report May-October, 1902, with appendix. 15 cents.  
 These reports in bulletins can be obtained at the prices indicated from the Superintendent of Documents, Government Printing Office, Washington, D. C.

### PRESIDENT'S HOMES COMMISSION.

This commission, not now in existence, was appointed by the President of the United States, and made a report on housing conditions and the construction of model houses in the District of Columbia.

A preliminary report of this commission was printed in 1909 as Senate Document 599, 60th Congress, 2d session, and can be purchased for 20 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C.

### COUNTRY LIFE COMMISSION.

This commission, not now in existence, made a report on conditions of country life, which was printed as Senate Document No. 705, 60th Congress, 2d session, in 1909. It contains 65 pages. The report discusses land holding, control of streams and forests, restraint of trade, agricultural labor, women's work on the farm, etc. It can be obtained from Superintendent of Documents, Government Printing Office, Washington, D. C. Price 95 cents.

### COMMISSION ON CONDITION OF WOMEN AND CHILDREN IN INDUSTRY.

This commission, which no longer exists, was appointed by Congress to investigate the condition of women and child wage earners in the United States in 1910. A report was printed in 19 volumes (1910-1913), as Senate Document No. 645, 61st Congress, 2d session, as follows:

- Vol. 1. Cotton textile industry. 1044 pp. 75 cents.
- Vol. 2. Men's ready-made clothing. 878 pp. 65 cents.
- Vol. 3. Glass industry. 970 pp. 75 cents.
- Vol. 4. Silk industry. 592 pp. 45 cents.
- Vol. 5. Wage-earning women in stores and factories. 884 pp. 80 cents.
- Vol. 6. *Not available.*
- Vol. 7. Conditions under which children leave school to go to work. 309 pp. 25 cents.
- Vol. 8. *Not available.*
- Vol. 9. History of women in industry in the United States. 277 pp. 25 cents.
- Vol. 10. History of women in trade unions. 236 pp. 20 cents.
- Vol. 11. Employment of women in metal trades. 107 pp. 10 cents.
- Vol. 12. Employment of women in laundries. 121 pp. 15 cents.
- Vol. 13. Infant mortality and its relation to the employment of mothers. 174 pp. 15 cents.
- Vol. 14. Causes of death among women and child cotton-mill operatives. 480 pp. 35 cents.
- Vol. 15. Relation between occupation and criminality among women. 119 pp. 10 cents.
- Vol. 16. Family budgets of cotton-mill workers. 255 pp. illus. 20 cents.
- Vol. 17. Hookworm disease among cotton-mill operatives. 45 pp. 5 cents.
- Vol. 18. Employment of women and children in selected industries. 531 pp. 85 cents.
- Vol. 19. Labor laws and factory conditions. 1125 pp. 80 cents.

These reports are available for distribution at the prices indicated by the Superintendent of Documents, Government Printing Office, Washington, D. C.

### NATIONAL MONETARY COMMISSION.

This commission, not now in existence, was appointed by Congress to investigate the fiscal and banking methods of this and other countries and report to Congress, with conclusions and recommendations. The report was printed in 1909 in 24 volumes as follows:

- Vol. 1. Banking in England, Germany, Switzerland, and Italy.
- Vol. 2. Financial laws of the United States, 1778-1909.
- Vol. 3. Digest of State banking laws.

- Vol. 4. Banking in the United States before the Civil War.  
 Vol. 5. National banking system.  
 Vol. 6. Clearing houses and credit instruments.  
 Vol. 7. State banks, trust companies, and independent treasury system.  
 Vol. 8. English banking system.  
 Vol. 9. Banking in Canada.  
 Vol. 10. Reichbank and removal of its charter.  
 Vol. 11. Articles on German banking and German banking laws.  
 Vol. 12. German bank inquiry of 1908. Part I.  
 Vol. 13. German bank inquiry of 1908. Part II.  
 Vol. 14. The great German banks.  
 Vol. 15. Banking in France and the French bourse.  
 Vol. 16. Banking in Belgium and Mexico.  
 Vol. 17. Banking in Sweden and Switzerland.  
 Vol. 18. Banking in Italy, Russia, Austro-Hungary, and Japan.  
 Vol. 19. Administrative features of national banking laws and European fiscal and postal-savings system.  
 Vol. 20. Miscellaneous articles.  
 Vol. 21. Statistics for the United States, Great Britain, Germany, and France.  
 Vol. 22. Seasonal variations in demands for currency and capital.  
 Vol. 23. Financial diagrams.  
 Vol. 24. Recommendations of National Monetary Commission.  
 Sets of these reports (24 vols.) can be obtained from Superintendent Documents, Government Printing Office, Washington, D. C., for \$45.

## IMMIGRATION COMMISSION.

- This commission, not now in existence, was appointed by Congress to make an investigation of immigration conditions and made a report in 1910, as follows:
- Vols. 1 and 2. Abstracts of reports. 900 pp. each. 61st Congress, 3d session. Senate Document 747. \$1.25 each.  
 Vol. 3. Statistical review, 1819-1910. 587 pp. Senate Document 756. 55 cents.  
 Vol. 4. Emigration conditions in Europe. 424 pp. Senate Document 748. 45 cents.  
 Vol. 5. Dictionary of races or peoples. 150 pp. Illus. Senate Document 662. 20 cents.  
 Vols. 6 and 7. Immigrants in soft-coal mining. 1,310 pp. Senate Document 633. 60 and 65 cents.  
 Vols. 8 and 9. Immigrants in iron and steel industries. 1,558 pp. Senate Document 633. 70 and 80 cents.  
 Vol. 10. Immigrants in cotton and woolen goods. 951 pp. Senate Document 633. 85 cents.  
 Vol. 11. Immigrants in silk, clothing, collar, and shirt manufacturing. 790 pp. 65 cents.  
 Vol. 12. Immigrants in leather, boot and shoe, and glove manufacturing. 908 pp. 75 cents.  
 Vol. 13. Immigrants in slaughtering and meat packing. 697 pp. 70 cents.  
 Vol. 14. Immigrants in glass, agricultural implements, and vehicle manufacturing. 812 pp. 65 cents.  
 Vol. 15. Immigrants in tobacco, furniture, and sugar refining. 731 pp. 70 cents.  
 Vol. 16. Immigrants in copper, iron ore, hard coal, and oil. 929 pp. 80 cents.  
 Vols. 17 and 18. Immigrants in diversified industries and floating labor. 1,031 pp. 50 and 55 cents.  
 Vols. 19 and 20. Summary. Vols. 6-18. 2,030 pp. 50 cents and \$1.25. Abstract, 20 cents.  
 Vols. 21 and 22. Immigrants in agriculture. 130 pp. Paper, 35 and 40 cents.  
 Vols. 23-25. Japanese and races in Pacific and Rocky Mountains. 2,180 pp. 45, 65, and 85 cents.  
 Vols. 26 and 27. Immigrants in New York, Chicago, Philadelphia, Boston, etc. 1,405 pp. 55 and 70 cents.  
 Vol. 28. Occupations of future generations, number of children. 826 pp. 75 cents.  
 Vols. 29-33. Children of immigrants in schools. Senate Miscellaneous Document 749. 60 and 80 cents.

Vols. 34 and 35. Immigrants as charity seekers. 1,839 pp. Senate Document 655. \$1.

Vol. 36. Immigration and crime. 449 pp. Senate Document 750. Paper, 35 cents; cloth, 50 cents.

Vol. 37. Steerage, importing immoral women, homes, and aid societies. 350 pp. 35 cents.

Vol. 38. Changes in bodily form of descendants of immigrants. 573 pp. 60 cents.

Vol. 39. Immigration legislation and decisions. Senate Document 758. Paper, 65 cents; cloth, 80 cents.

Vol. 40. Immigration, Canada, Australia, Argentina, Brazil. 229 pp. 35 cents.

Vol. 41. Statements by aid societies and organizations. 431 pp. Senate Document 764.

Vol. 42. General index. (Probably never will be published.)

These reports can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price indicated.

## ECONOMY AND EFFICIENCY COMMISSION.

This commission, not now in existence, was appointed by the President of the United States as a commission, directly under the White House, for the purpose of investigating and recommending more economical and efficient methods in conducting the business of the Government. The commission issued a number of circulars and reports in 1910 to 1912, many of which are still available for distribution by the Superintendent of Documents, as follows:

Circular No. 1. Outline for Reclassification of Government Estimates.

Circular No. 4. Plan of Inquiry and Progress of Work.

Circular No. 6. Expenditure Documents and Purchase of Supplies and Stores.

Circular No. 13. Accounting Forms, Appropriations and Store Funds.

Circular No. 18. Uniform System of Controlling Accounts and Summaries.

Circular No. 20. Forms for Assets and Liabilities, Expenses, etc.

Circular No. 21. Interdepartmental Correspondence and Labor Saving.

Circular No. 23. Report on Progress of Work of the Commission.

Circular No. 25. Analysis of Estimates and Expenditures for President.

Circular No. 26. Alphabetical List of Catalogues for Preparing Orders.

Circular No. 27. Analysis of Salaries and Wages Paid by the Government.

Circular No. 29. Report of Preliminary Inquiry before this commission.

Circular No. 30. Organization and Activity of the commission.

Circular No. 31. Reports of Commission to January 8, 1913, and Criticism of Methods; Special Examples.

Circular No. 33. Conclusions in re Expenditure Accounting and Reporting.

Circular No. 34. Report by commission to President, December 18, 1912.

Final Report of Commission, Vol. I, 565 pp. House Document 670, 62d Congress, 2d session, 1912. 65 cents.

Organization of the Government, Vol. II, pp. 805-1833. House Document 458.

Reprint of Outline of Organization of Government, 1912. 23 pp. 5 cents.

All of the above reports are for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C.

## EMPLOYERS' LIABILITY AND WORKMAN'S COMPENSATION COMMISSION.

This commission, not now in existence, held hearings and made a report, which was published in several volumes in 1912, as follows:

Hearings, 1911, 2 vols., 514 pp. (Senate Document 90, 62d Congress, 1st session.) Cloth, 50 cents; paper 35 cents.

Report with Hearings, 1912, 2 vols., 1,709 pp. Senate Document 338, 62d Congress, 2d session. Vol. 1, Report and conditions in United States, Germany, and England, with laws and statistics. Cloth, 25 cents; paper, 15 cents. Vol. 2, Cases, hearings, and briefs. Cloth, \$1.15; paper, \$1.

These reports can be obtained from the Superintendent of Documents, Government Printing Office, at the prices indicated.

COMMISSION ON INDUSTRIAL RELATIONS.<sup>1</sup>

*Principal administrative officials.*—Chairman and eight other members, Counsel to the Commission, Secretary, Director of Research and Investigation.

*General information and duties.*—The commission was created by Act of August 23, 1912. It was authorized to inquire into the general condition of labor, the relations of employer and employee, the effect of industrial conditions on public welfare, methods for sanitation and safety, methods for avoiding or adjusting labor disputes, smuggling of Asiatics into this country, and the underlying causes of industrial unrest, and reports its conclusions to Congress.

The commission submitted its report to Congress August 23, 1915, which was printed in 11 volumes, containing 11,260 pages of testimony. The commission held hearings in 1913, 1914, and 1915 in many of the principal cities of the United States, and heard the testimony of several hundred persons, including both employers and employees.

*Publications.*—The only publication issued by the commission was the report with testimony in 11 volumes, and the final report in one volume.

Vol. I (pages 1–1024). Final report and conclusions of the commission; Suggestions of export witnesses to the commission; Testimony regarding trade agreements in collective bargaining; and Efficiency systems and labor.

Vol. II (pages to 2050). Cloak, suit, and waist industry, New York; Employment offices and unemployment; American Federation of Labor, Socialist Party, and the I. W. W.; Building trades of New York City; Industrial education, apprenticeship, and child labor; State mediation and arbitration of industrial disputes; and Men's garment trade of New York City.

Vol. III (pages to 3032). Dock workers of New York City; Department stores in New York City; Industrial relations and conditions, Paterson, N. J.; General industrial relations and conditions in Philadelphia; Cooperative plan of the Philadelphia Rapid Transit Co.; The metal trades of Philadelphia; Industrial education, apprenticeship, and child labor; Glass and pottery industries.

Vol. IV (pages to 4095). Textile industry of Philadelphia; Women's garment industry of Philadelphia; Industrial relations and conditions in Chicago; Life and labor conditions of Chicago stockyard employees; Conditions of employment of waiters and cooks; Industrial relations, gold mining, Black Hills, S. Dak.; Mining conditions and relations at Butte, Mont.

Vol. V (pages to 5085). Industrial relations and remedies, Seattle, Wash.; General industrial relations and conditions, Portland, Oreg.; Open and closed shop controversy, Stockton, Cal.; The seasonal labor problem in agriculture; Unemployment in California.

Vol. VI (pages to 6000). Labor conditions in construction camps, California; Collective bargaining in San Francisco; Industrial accident compensation; General industrial relations and conditions, San Francisco, Cal.; The printers strike in San Francisco; Open and closed shop controversy, Los Angeles, Cal.

Vol. VII (pages to 6990). Smuggling of Asiatics; The Colorado coal miners' strike.

Vol. VIII (pages to 8014). The Colorado coal miners' strike (continued); Centralization of industrial control and operation of philanthropic foundations; The Colorado strike, large foundations, and industrial control.

Vol. IX (pages to 9056). The Colorado strike, large foundations, and industrial control (continued); Rockefeller interests in Colorado; The land question in the Southwest.

Vol. X (pages to 10066). The land question in the Southwest (continued); Commercial telegraph companies; Pullman employees; Harriman Railroad System strike.

Vol. XI (pages to 11260). Conditions of labor on the Pennsylvania Railroad; Labor and the law; Pennsylvania State police; Labor conditions in Porto Rico; Complete subject and witness indexes.

*Correspondence.*—Ten thousand copies of the final report and testimony in 11 volumes were printed as Senate Document No. 415, 64th Congress, 1st session. One hundred thousand copies of the final report in one volume were printed. Copies of these reports are available for distribution by Members of Congress, and they can also be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C.

<sup>1</sup>The commission ceased to exist on the submitting of its report.

## THE DISTRICT OF COLUMBIA.

## PRINCIPAL ADMINISTRATIVE OFFICIALS.

## General Government:

Board of Commissioners.

Secretary's Office.

Finance Offices—

Auditor.

Disbursing Officer.

Assessor.

Collector of Taxes.

Law Offices.

Miscellaneous Executive Offices—

Automobile Board.

Municipal Architect.

Chief Clerk Engineer Department.

Public Utilities Commission.

Care of District Building.

Courts and Courthouse.

Probation System.

Register of Wills.

Police Court.

Juvenile Court.

Municipal Court.

Coroner.

Writs of Lunacy.

Purchasing Department.

## Protection of Life and Property:

Metropolitan Police.

Militia and Armories.

Fire Department.

Miscellaneous inspection—

Building Inspector.

Plumbing Inspector.

Weights, Measures, and Markets.

Pound for Stray Animals.

Surveyor.

Insurance.

Electrical Inspection.

Game and Fish Laws.

Dangerous Buildings, Removal of.

Street Lighting.

## Health and Sanitation:

Health Office—

Quarantine and Contagious Diseases.

Sewers and Sewage Disposal.

Street Cleaning and Disposal of City Refuse.

Collection and Disposal of Garbage.

Condemnation of Insanitary Buildings.

Public Comfort Stations.

Board of Medical Supervisors.

Board of Medical Examiners.

Board of Pharmacy.

Nurses' Examining Board.

## Health and Sanitation—Continued.

Anatomical Board.

Board of Dental Examiners.

Board of Examiners in Veterinary Medicine.

## Highways:

Surface Division.

Inspection of Asphalts and Cements.

Grading, Paving, Repairing Streets, Alleys, and Roads.

Condemning Land for Streets, etc. Bridges.

## Charities and Corrections:

Board of Charities—

Institutions for the Indigent—

Home for Aged and Infirm.

Municipal Lodging House.

Home for Incurables.

Southern Relief Society.

Relief of Outdoor Poor.

Care of Children—

Board of Children's Guardians.

Hope and Help Mission.

Industrial Home Schools.

Relief of Colored Women and Children.

National Training School for Boys.

National Training School for Girls.

Care of Children under Contracts with Private Institutions.

Burial of Indigent Soldiers.

Hospitals.

Insane (Care and Treatment).

Prisons and Reformatories—

Washington Asylum and Jail.

Reformatory and Workhouse.

## Education:

Board of Education—

Public Schools.

Special Education—

Instruction of Deaf and Dumb.

Instruction of Indigent Blind.

Free Public Library.

## Recreation:

Parks and Street Parking.

Public Playgrounds.

Bathing Beach and Swimming Pools.

## Public Service Instrumentalities:

Water Supply.

Markets (Public).

Crematory.

## Interest and Debt:

The Treasurer of the United States.

*General information and duties.*—The District of Columbia was established under the authority and direction of acts of Congress approved July 16, 1790, and March 3, 1791, which were passed to give effect to a clause in the eighth section of the first article of the Constitution of the United States, giving Congress the power—

"To exercise exclusive legislation in all cases whatsoever over such district (not exceeding ten miles square) as may, by cession of particular States and the acceptance of Congress, become the seat of the Government of the United States, and to exercise like authority over all places purchased, by the consent of the legislature of the State in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings."

The local government of the District of Columbia is a municipal corporation having jurisdiction over the territory which "was ceded by the State of Maryland to the Congress of the United States for the permanent seat of the Government of the United States."

This government is administered by a board of three commissioners having in general equal powers and duties.

Two of these commissioners, who must have been actual residents of the District for three years next before their appointment and have during that period claimed residence nowhere else, are appointed from civil life by the President of the United States and confirmed by the Senate of the United States for a term of three years each and until their successors are appointed and qualified.

The other commissioner is detailed from time to time by the President of the United States from the Engineer Corps of the United States Army, and shall not be required to perform any other duty. This commissioner shall be selected from among the captains or officers of higher grade having served at least 15 years in the Corps of Engineers of the Army of the United States.

Three officers of the same corps, junior to said commissioner, may be detailed to assist him by the President of the United States.

The senior officer of the Corps of Engineers of the Army who shall for the time being be detailed to act as assistant (and in case of his absence from the District or disability, the junior officer so detailed) shall, in the event of the absence from the District or disability of the commissioner who shall for the time being be detailed from the Corps of Engineers, perform all the duties imposed by law upon said commissioner.

One of said commissioners shall be chosen president of the board of commissioners at their first meeting, and annually and whenever a vacancy shall occur thereafter.

The commissioners are in a general way vested with jurisdiction covering all the ordinary features of municipal government and are also *ex officio* the Public Utilities Commission of the District of Columbia.

Congress has by sundry statutes empowered the commissioners to make building regulations; plumbing regulations; to make and enforce all such reasonable and usual police regulations as they may deem necessary for the protection of lives, limbs, health, comfort, and quiet of all persons, and the protection of all property within the District, and other regulations of a municipal nature.

## PUBLICATIONS.

*General publications.*—The following general publications have been issued:

1. The Code of Law for the District of Columbia.
2. A compilation of the laws of Congress relating to the incorporation of companies, societies, etc., in the District of Columbia, with references and comments respecting judicial and other rulings and interpretations bearing thereon.
3. Index to the acts of Congress relating to the District of Columbia, and extant laws of former governments of said District, prepared under authority of and paid for out of an appropriation contained in "An act making appropriations to provide for the expenses of the government of the District of Columbia for the fiscal year ending June 30, 1912, and for other purposes," approved March 2, 1911. (36 Stat., pt. 1, 966.)

Pamphlet editions of the following regulations made by the Board of Commissioners of the District of Columbia, in pursuance of authority imposed upon that board by acts of Congress, which are cited therein. These regulations are analogous to the ordinances of the municipal councils of the typical American city: Police regulations; Building regulations; Plumbing and gas-fitting regulations; Electric light, heat, and power regulations; Health regulations; General orders regulating the platting and subdividing of lands and grounds in the District of Columbia, April 10, 1899.

Pamphlet editions of the following are issued:

Laws Relating to the Assessment and Taxation of Real Estate in the District of Columbia to September 7, 1916.

Laws Relating to the Taxation of Personal Property in the District of Columbia to Termination of 1st Session of the 64th Congress, Edition of 1916.

Laws Relating to the Issue of Licenses to Transient Business in the District of Columbia.

Origin and Government of the District of Columbia. This is an outline sketch of the principal legislative and executive proceedings taken in the establishment of the seat of government of the United States, and of the several forms of local government which have obtained there. It contains also the names and terms of office of the leading officials of those governments, and other general information of local interest.

Maps of the District of Columbia, primarily for official use in the engineer department of the District of Columbia.

*Annual publications.*—(a) The only annual or periodical publication of the government of the District of Columbia consists of annual reports by the Board of Commissioners to Congress, embracing detailed and abstract accounts of the transactions of the several departments of that government, including reports of the Board of Charities, the Board of Education, and the Board of Children's Guardians.

(b) A compilation of laws prepared in the office of the secretary to the Board of Commissioners of the District of Columbia at the end of each session of Congress and relating to the District of Columbia, passed during such session.

(c) The annual estimates of the Board of Commissioners are included in the annual Book of Estimates. The copies not distributed by that department are kept for sale by the Superintendent of Documents of the Public Printing Office.

*Method of distributing general publications.*—All application for the free distribution or sale of these publications should be made to the secretary to the Board of Commissioners of the District of Columbia, at room 509, District Building, Washington, D. C.

The Code of Law for the District of Columbia is distributed by the Superintendent of Documents of the Government Printing Office.

The Index to the Acts of Congress relating to the District of Columbia is subject to free distribution to officials of the government of the District of Columbia to the number of 100, the remainder of the edition is subject to sale by the publishers, John Byrne & Co., 715 Fourteenth Street NW., Washington, D. C.

The following publications are subject to free distribution:

(a) The pamphlet containing the laws of Congress providing for the incorporation of societies, companies, and general business concerns in the District of Columbia.

(b) The pamphlet edition of the Origin and Government of the District of Columbia.

(c) The pamphlet editions of the following pamphlets and copies of maps: General orders regulating the platting and subdividing of lands and grounds in the District of Columbia, edition of April 10, 1899; Laws relating to the assessment and taxation of real estate in the District of Columbia to September 7, 1916; Laws relating to the taxation of personal property in the District of Columbia; and Map of the District of Columbia.

The Commissioners of the District of Columbia are authorized hereafter to issue, in their discretion, without charge, to officers and the judiciary of the government of the District of Columbia, and to other officers of the Government, to institutions of learning, and to State and city officials, by way of documentary exchange, copies of building, police, plumbing, and other municipal regulations made and published by them in their official capacity, not exceeding in all 100 copies, and the remainder of such publications shall only be disposed of by sale at not less than the cost price and 10 per cent thereof.

The charges now made per copy for such regulations at present are: Police Regulations, 25 cents; Building Regulations, 60 cents; Electric Lighting Regulations, 30 cents; Plumbing and Gas-fitting Regulations, 20 cents; and Health Regulations, 65 cents.



## APPENDIX.

### DEPOSITORY LIBRARIES.

The following list of libraries are those at which Government publications are deposited for reference purposes by the Superintendent of Documents, Government Printing Office. Where the word "library" is not included in connection with colleges or other institutions it is understood that library of institution is referred to.

#### ALABAMA.

Alabama Polytechnic Institute, Auburn.  
Department of Archives and History, State Capitol, Montgomery.  
Athens College, Athens.  
State and Supreme Court, Montgomery.  
Public Library, Birmingham.  
Howard College, Birmingham.  
Tuskegee Institute, Tuskegee.  
Association Public Library, Mobile.  
University of Alabama, University.

#### ALASKA.

Alaska Historical Society and Museum, Juneau.  
St. Matthews Free Public Library, Fairbanks.

#### ARIZONA.

Arizona State Library, Phoenix.  
Phoenix Public Library, Phoenix.  
Free Public Library, Tucson.  
University of Arizona, Tucson.

#### ARKANSAS.

Hendrix College, Conway.  
Arkansas State Library, Little Rock.  
State Agricultural School, Jonesboro.  
State Agricultural School, Magnolia.  
Branch Normal College, Pine Bluff.  
University of Arkansas, Fayetteville.

#### CALIFORNIA.

California State Library, Sacramento.  
University of California, Berkeley.  
Free Public Library, Sacramento.  
Eureka Free Library, Eureka.  
Public Library, San Francisco.  
Free Public Library, Santa Rosa.  
Mechanics Mercantile Library, 57 Post Street, San Francisco.  
Public Library, Stockton.

#### CALIFORNIA—continued.

Modoc County Library, Aituras.  
Leland Stanford University, Stanford University.  
Public Library, Los Angeles.  
Public Library, San Diego.  
Public Library, Riverside.  
Pomona College, Claremont.

#### COLORADO.

Public Library, Denver.  
College of the Sacred Heart, Denver.  
Colorado State Library, Denver.  
University of Colorado, Boulder.  
Agricultural College Library, Fort Collins.  
Colorado College (Roburn Library), Colorado Springs.  
University of Denver Library, Denver.  
McClelland Public Library, Pueblo.

#### CONNECTICUT.

Public Library and Reading Room, Bridgeport.  
Connecticut Agricultural College, Storrs.  
Connecticut State Library, Hartford.  
Silas Bronson Library, Waterbury.  
Trinity College, Hartford.  
Yale University Library, New Haven.  
Wesleyan University, Middletown.

#### DELAWARE.

Delaware State Library, Dover.  
Wilmington Institute Library, Wilmington.  
Delaware College, Newark.  
New Castle Library Co., Newcastle.

#### DISTRICT OF COLUMBIA.

Army War College.  
Department of Interior.  
Department of Agriculture.

## DISTRICT OF COLUMBIA—continued.

Department of State.  
Navy Department.  
Department of Justice.  
Treasury Department.

## FLORIDA.

Public Library, Jacksonville.  
Florida State Library, Tallahassee.  
Florida State Normal and Industrial School, Tallahassee.  
University of Florida, Gainesville.  
J. B. Stetson University, Deland.  
Rollins College, Winter Park.

## GEORGIA.

University of Georgia, Athens.  
Georgia Historical Society, Savannah.  
Georgia State Industrial College, Savannah.  
Georgia State Library, Atlanta.  
Emory College, Oxford.  
North Georgia Agricultural College, Dahlonega.  
Thomas Public Library, Fort Valley.  
Young Men's Library Association, Augusta.  
Georgia Normal College and Business Institute, Douglas.  
Carnegie Library, Atlanta.

## HAWAII.

College of Hawaii, Honolulu.

## IDAHO.

University of Idaho, Moscow.  
Idaho State Library, Boise.  
Idaho Technical Institute, Pocatello.  
State Normal School, Albion.

## ILLINOIS.

Public Library, Freeport.  
University of Illinois, Urbana.  
Illinois State Library, Springfield.  
Public Library, Chicago.  
North Illinois State Normal School, De Kalb.  
University of Chicago, Chicago.  
Illinois State Normal University, Normal.  
Northwestern University, Evanston.  
St. Ignatius College, Chicago.  
Newberry Library, Chicago.  
St. Procopius College, Lisle.  
Public Library, Belleville.  
Public Library, Rockford.  
John Crerar Library, Chicago.  
Monmouth College, Monmouth.  
Public Library, Joliet.  
Public Library, Galesburg.

## ILLINOIS—continued.

Illinois Wesleyan University, Bloomington.  
Public Library, Danville.  
Public Library, Jacksonville.  
Illinois State Historical Society, Springfield.  
Public Library, Peoria.  
Public Library, Olney.  
Southern Illinois State Normal University, Carbondale.

## INDIANA.

Indiana State Library, Indianapolis.  
Purdue University, La Fayette.  
De Pauw University, Greencastle.  
Indiana University, Bloomington.  
Jasper College, Jasper.  
Hanover College, Hanover.  
Indiana State Normal School, Terre Haute.  
Morrison Reeves Library, Richmond.  
Union Christian College, Merom.  
Lemonnier Library, University Notre Dame, Notre Dame.  
Public Library, Fort Wayne.  
Valparaiso University, Valparaiso.  
Public Library, Muncie.  
Wabash College, Crawfordsville.  
Indianapolis Public Library, Indianapolis.  
City Free Library, Huntington.  
Willard Library, Evansville.

## IOWA.

Iowa State Library, East Des Moines.  
Public Library, Fairfield.  
Free Public Library, Dubuque.  
Public Library, Des Moines.  
State University of Iowa, Iowa City.  
Iowa Wesleyan University, Mount Pleasant.  
Iowa State College, Ames.  
Cornell College, Mount Vernon.  
Public Library, Council Bluffs.  
Tabor College, Tabor.  
Ericson Public Library, Boone.  
Iowa College, Grinnell.  
Upper Iowa University, Fayette.  
Public Library, Cedar Falls.  
Public Library, Sloux City.

## KANSAS.

Kansas State Library, Topeka.  
Kansas State Agricultural College, Manhattan.  
Kansas State Historical Society, Topeka.  
University of Kansas, Lawrence.  
Baker University, Baldwin.  
Public Library, Pittsburg.  
Public Library, Hiawatha.

## KANSAS—continued.

Kansas State Normal Library, Emporia.  
Cooper College, Sterling.  
Fairmont College, Wichita.

## KENTUCKY.

Public Library, Louisville.  
Kentucky State Library, Frankfort.  
Lincoln Institute of Kentucky, Simpsonville.  
State University Library, Lexington.  
Public Library, Henderson.  
Center College of Central University of Kentucky, Danville.  
Public Library, Somerset.  
Kentucky Wesleyan College, Winchester.

## LOUISIANA.

Louisiana State Library, New Orleans.  
Louisiana State Museum Library, New Orleans.  
Louisiana Industrial Institute Library, Ruston.  
State Normal School, Natchitoches.  
Louisiana State University, Baton Rouge.  
Public Library, New Orleans.  
Tulane University, New Orleans.  
Howard Memorial Library, New Orleans.

## MAINE.

University of Maine, Orono.  
Maine State Library, Augusta.  
Bowdoin College, Brunswick.  
Public Library, Portland.  
Dyer Library Association, Saco.  
Bates College, Lewiston.  
Public Library, Bangor.  
Colby University, Waterville.

## MARYLAND.

Maryland State Library, Annapolis.  
Johns Hopkins University, Baltimore.  
United States Naval Academy, Annapolis.  
Western Maryland College, Westminster.  
Epoch Pratt Free Library, Baltimore.  
Washington College, Chestertown.  
Peabody Institute, Baltimore.

## MASSACHUSETTS.

State Library of Massachusetts, Boston.  
Massachusetts Agricultural College, Amherst.  
American Antiquarian Society, Worcester.

## MASSACHUSETTS—continued.

Harvard College, Cambridge.  
Williams College, Williamstown.  
Tufts College, Tufts College.  
Amherst College, Amherst.  
City Library, Lowell.  
Public Library, Worcester.  
Essex Institute, Salem.  
Boston Athenaeum Library, Boston.  
Public Library, Marlborough.  
Public Library, Lynn.  
Public Library, Boston.  
Public Library, Taunton.  
Public Library, New Bedford.

## MICHIGAN.

Michigan Agricultural College, East Lansing.  
Public Library, Kalamazoo.  
Public Library, Detroit.  
Public School Library, Battle Creek.  
Michigan State Library, Lansing.  
Detroit College, Detroit.  
University of Michigan, Ann Arbor.  
Public Library, Benton Harbor.  
Public Library, Grand Rapids.  
Polish Seminary, Orchard Lake.  
Public Library, Muskegon.  
Michigan School of Mines, Houghton.  
Public Library, Port Huron.  
Public Library, Saginaw, E. S.  
Public Library, Bay City.

## MINNESOTA.

Minnesota Historical Society, St. Paul.  
State Normal School, Winona.  
Minnesota State Library, St. Paul.  
University of Minnesota, Minneapolis.  
Public Library, Faribault.  
Public Library, Stillwater.  
Public Library, Minneapolis.  
Public Library, Duluth.  
High School Library, Fergus Falls.  
State Normal School, St. Cloud.  
Public Library, St. Paul.

## MISSISSIPPI.

Mississippi State Library, Jackson.  
Mississippi Agricultural and Mechanical College, Agricultural College.  
Mississippi State University, Oxford.  
Millsaps Library, Jackson.  
Public Library, Greenville.  
Public Library, Brookhaven.

## MISSOURI.

College of Agriculture and Mechanic Arts of Missouri. State University, Columbia.  
Christian Brothers' College, St. Louis.  
Drury College, Springfield.

## MISSOURI—continued.

Public Library, St. Joseph.  
 Public Library, Hannibal.  
 Hazelton Public School, Chillicothe.  
 Missouri State Library, Jefferson City.  
 Missouri School of Mines, Rolla.  
 Mount Jewell College, Liberty.  
 Public Library, Kansas City.  
 Public School Library, Carthage.  
 Public Library, St. Louis.  
 Public School Library, Perryville.  
 The Rockhurst College, Kansas City.  
 St. Louis University, St. Louis.  
 State Normal School, Warrensburg.  
 State Normal School, Cape Girardeau.  
 University of Missouri, Columbia.  
 Washington University, St. Louis.  
 Westminster College, Fulton.

## MONTANA.

Montana Agricultural College, Bozeman.  
 Montana State School of Mines, Butte.  
 Public Library, Helena.  
 University of Montana, Missoula.  
 Historical and Miscellaneous Department of Montana State Library, Helena.

## NEBRASKA.

University of Nebraska, Lincoln.  
 Carnegie Library, Grand Island.  
 Nebraska State Library, Lincoln.  
 Public Library, Omaha.  
 Public Library, Kearney.

## NEVADA.

Nevada State Library, Carson City.  
 University of Nevada Library, Reno.

## NEW HAMPSHIRE.

City Library, Manchester.  
 Dartmouth College, Hanover.  
 Public Library, New Hampshire College, Durham.  
 New Hampshire State Library, Concord.  
 Public Library, Laconia.  
 Public Library, Dover.

## NEW JERSEY.

Public Library, New Brunswick.  
 Public Library, Trenton.  
 Public Library, Atlantic City.  
 Public Library, Camden.  
 Public Library, Paterson.  
 Public Library, Bayonne.  
 Public Library, Jersey City.  
 Public Library, Newark.  
 New Jersey State Library, Trenton.  
 New Jersey Historical Society, Newark.

## NEW JERSEY—continued.

Princeton University, Princeton.  
 Public Library, Elizabeth.  
 Rutgers College, New Brunswick.

## NEW MEXICO.

New Mexico College of Agriculture and Mechanic Arts, State College.  
 New Mexico Normal University, East Las Vegas.  
 Territorial Library, Santa Fe.  
 University of New Mexico, Albuquerque.

## NEW YORK.

Adriance Memorial Library, Poughkeepsie.  
 Brooklyn Public Library, Brooklyn.  
 College of the City of New York, New York.  
 Colgate University, Hamilton.  
 Columbia University, New York.  
 Cooper Union Library, New York.  
 Cornell University, Ithaca.  
 Crandall Free Library, Glens Falls.  
 Astor Branch New York Public Library, New York.  
 Free Library, Newburgh.  
 Lenox Branch of New York Public Library, New York.  
 New York University, New York.  
 The Grosvenor Library, Buffalo.  
 Keuka College Public Library, Keuka Park.  
 New York State School of Agriculture, Farmingdale.  
 New York Law Institute Library, New York.  
 New York State Library, Albany.  
 Pratt Institute Library, Brooklyn.  
 Public Library, Utica.  
 Public Library, Yonkers.  
 Public Library, Buffalo.  
 Public Library, Plattsburg.  
 Rochester University, Rochester.  
 Supreme Court Library, White Plains.  
 Syracuse University, Syracuse.  
 Public Library, Troy.  
 Union College, Schenectady.  
 United States Military Academy, West Point.  
 The World Library, Pulitzer Building, New York.

## NORTH CAROLINA.

Catawba College, Newton.  
 Colored Agricultural and Mechanical College, Greensboro.  
 Fruitland Institute Library, Hendersonville.  
 Public Schools Library, Washington.  
 North Carolina State Library, Raleigh.  
 Trinity College, Durham.

## NORTH CAROLINA—continued.

Union Library, Davidson College, Davidson.  
 University of North Carolina, Chapel Hill.  
 Wake Forest College, Wake Forest.

## NORTH DAKOTA.

North Dakota Agricultural College, Agricultural College.  
 North Dakota Library, Bismarck.  
 State Historical Society, Bismarck.  
 State Normal School, Valley City.  
 State University of North Dakota, University.

## OHIO.

Brumback Library of Van Wert, Van Wert.  
 Public Library, Athens.  
 Public Library, Steubenville.  
 Case Library, Cleveland.  
 Denison University, Granville.  
 Public Library, Portsmouth.  
 Hiram College, Hiram.  
 Kenyon College, Gambier.  
 Public Library, Lebanon.  
 Adelbert College of Western Reserve University, Cleveland.  
 Miami University, Oxford.  
 Marietta College, Marietta.  
 Oberlin College, Oberlin.  
 Mt. Union College, Alliance.  
 Ohio State Library, Columbus.  
 Ohio State University, Columbus.  
 Ohio Wesleyan University, Delaware.  
 Public Library, Bucyrus.  
 Public Library, Columbus.  
 Public Library, Toledo.  
 Public Library, Sidney.  
 Public Library and Museum, Dayton.  
 Public Library, Chillicothe.  
 Public Library, Cleveland.  
 Public Library, Cincinnati.  
 Warder Public Library, Springfield.

## OKLAHOMA.

High School Library, Muskogee.  
 Altus Public Library, Altus.  
 Colored Agricultural and Normal University, Langston.  
 Murray State School of Agriculture, Tishomingo.  
 East Central State Normal School, Ada.  
 Northwestern State Normal School, Alva.  
 Oklahoma Agricultural and Mechanical College, Stillwater.  
 Oklahoma State Library, Oklahoma City.  
 Public Library, Enid.  
 University of Oklahoma, Norman.

## OREGON.

Library Association, Portland.  
 Oregon Agricultural College, Corvallis.  
 Reed College, Portland.  
 Oregon State Library, Salem.  
 Tualatin Academy and Pacific University, Forest Grove.  
 University of Oregon, Salem.

## PENNSYLVANIA.

Alleghany College, Meadville.  
 Public Library, Pittsburgh.  
 Public Library, Bradford.  
 Pennsylvania State College, State College.  
 Free Library of Philadelphia, Philadelphia.  
 Haverford College, Haverford.  
 Historical Society of Pennsylvania, Philadelphia.  
 Juniata College, Huntingdon.  
 Lehigh University, South Bethlehem.  
 Library Company of Philadelphia, Philadelphia.  
 William McCann Library, Norristown.  
 Washington and Jefferson College, Washington.  
 Pennsylvania College, Gettysburg.  
 Mercantile College, Philadelphia.  
 The J. Herman Bosler Library, Carlisle.  
 Philadelphia Museum, Philadelphia.  
 Public Library, Scranton.  
 Public Library, Warren.  
 Public Library, Erie.  
 Reading Room, Reading.  
 University of Pennsylvania, Philadelphia.  
 University of Pittsburgh, Pittsburgh.  
 Watts De Peyster Library, F. and M. College, Lancaster.  
 Wyoming Historical and Geographical Society, Wilkes-Barre.  
 Pennsylvania State Library, Harrisburg.

## RHODE ISLAND.

Public Library, Westerly.  
 Public Library, Providence.  
 Brown University, Providence.  
 Rhode Island State Library, Providence.  
 Rhode Island College of Agriculture and Mechanical Arts, Kingston.

## SOUTH CAROLINA.

Charleston Library Society, Charleston.  
 Charleston College, Charleston.  
 Clemson Agricultural College, Clemson College.  
 Colored Normal, Industrial, Agricultural, and Mechanical College, Orangeburg.  
 Presbyterian College, Clinton.

## SOUTH CAROLINA—continued.

South Carolina State Library, Columbia.  
 University of South Carolina, Columbia.  
 Winthrop Normal and Industrial College, Rockhill.

## SOUTH DAKOTA.

Free Public Library, Sioux Falls.  
 South Dakota State Library, Pierre.  
 Dakota Wesleyan University, Mitchell.  
 South Dakota State College of Agriculture and Mechanic Arts, Brookings.  
 University of South Dakota, Vermillion.  
 Yankton College, Yankton.

## TENNESSEE.

Branham and Hughes School Library, Spring Hill.  
 Public Library, Nashville.  
 Cossitt Library, Memphis.  
 Middle Tennessee State Normal Library, Murfreesboro.  
 Public Library, Chattanooga.  
 Tennessee State Library, Nashville.  
 University of the South, Sewanee.  
 University of Tennessee, Knoxville.  
 Vanderbilt University, Nashville.

## TEXAS.

Agricultural and Mechanical College of Texas, College Station.  
 Baylor Library, Waco.  
 Public Library, Fort Worth.  
 Public Library, San Antonio.  
 Lyceum and Library, Houston.  
 Clarendon College, Clarendon.  
 Public Library, Dallas.  
 Public Library, El Paso.  
 Rosenberg Library, Galveston.  
 Southwestern University, Georgetown.  
 Texas Christian University, Fort Worth.  
 Texas State Library, Austin.  
 University of Texas, Austin.

## UTAH.

Brigham Young University Library, Provo.  
 Agricultural College, Logan.  
 Public Library, Ogden.  
 High School Library, Mantl.  
 University of Utah, Salt Lake City.

## VERMONT.

Norwich University, Northfield.  
 Fletcher Free Library, Burlington.  
 Middlebury College, Middlebury.

## VERMONT—continued.

University of Vermont, Burlington.  
 Vermont State Library, Montpelier.

## VIRGINIA.

Emory and Henry College, Emory.  
 Bridgewater College, Bridgewater.  
 Virginia University, University.  
 Roanoke College, Salem.  
 Virginia State Library, Richmond.  
 Virginia Military Institute, Lexington.  
 Virginia Agricultural and Mechanical College and Polytechnic Institute Library, Blacksburg.  
 Richmond College Library, Richmond.  
 Public Library, Norfolk.  
 Hampden Sidney College, Hampden Sidney.  
 Washington and Lee University, Lexington.

## WASHINGTON.

Public Library, Everett.  
 Public Library, Seattle.  
 Public Library, Spokane.  
 State College of Washington, Pullman.  
 Public Library, Tacoma.  
 University of Washington, Seattle.  
 Washington State Library, Olympia.  
 Whitman College, Walla Walla.

## WEST VIRGINIA.

Davis and Elkins College, Elkins.  
 Department of Archives and History, State Library, Charleston.  
 Normal School, Fairmont.  
 Preparatory Branch, West Virginia University, Keyser.  
 West Virginia Colored Institute, Institute.  
 West Virginia University, Morgantown.

## WISCONSIN.

Appleton Library, Lawrence University, Appleton.  
 Public Library, La Crosse.  
 Beloit College, Beloit.  
 Public Library, Fond Du Lac.  
 Public Library, Eau Claire.  
 Public Library, Milwaukee.  
 Public Library, Racine.  
 State Library, Madison.  
 State Historical Society, Madison.  
 Public Library, Superior.

## WYOMING.

Public Library, Sheridan.  
 University of Wyoming, Laramie.  
 Wyoming State Library, Cheyenne.

## PHILIPPINE ISLANDS.

Philippine Library and Museum, Legislative Reference Division, Manila, P. I.

## List of United States Government Libraries, Washington, D. C.

Name.	Specialty.	Location.	Number volumes
I. State Department: Bureau of Rolls and Library.	Foreign relations and international law.	State, War and Navy Building, Seventeenth Street, south of Pennsylvania Avenue.	80,000
II. Treasury Department.....	Finance and Government documents.	Treasury Building, Fifteenth and Pennsylvania Avenue.	15,000
Bureau of Public Health Service.	Medicine.....	3 B Street SE.....	8,000
Office of Supervising Architect.	Architecture and construction.	Treasury Building, Fifteenth and Pennsylvania Avenue.	1,500
Office of Solicitor of Treasury.	Law.....	Bond Building, 14th St. & N. Y. Ave.	8,000
III. War Department.....	Military affairs.....	State, War, and Navy Building, Seventeenth Street, south of Pennsylvania Avenue.	100,000
Army Medical School..	Medicine.....	462 Louisiana Avenue, N.W.....	3,000
Army War College.....	Military affairs.....	War College Building, foot Four-and-a-half Street SW.	200,000
Engineer's School Library.	Engineering.....	Washington Barracks, foot Four-and-a-half Street SW.	60,000
Bureau of Insular Affairs.	Philippines and Porto Rico.	Mills Building, Seventeenth and Pennsylvania Avenue.	2,000
Surgeon General's office.	Medicine.....	Seventh and B Streets SW.....	580,000
IV. Department of Justice.....	Law.....	Fifteenth and Vermont Avenue.	50,000
V. Post Office Department....	Post Office Department, documents.	Chief Clerk's office, Post Office Department Building. <sup>1</sup>	
VI. Navy Department.....	Naval affairs.....	State, War, and Navy Building, Seventeenth Street, south of Pennsylvania Avenue.	75,000
Hydrographic Office..	Navigation.....	1734 New York Avenue.....	2,000
Naval Observatory.....	Astronomy.....	Massachusetts Avenue and W Street.	35,000
Navy Medical School..	Medicine.....	Twenty-third and E Streets N.W.	18,000
VII. Interior Department:			
General Land Office....	Law.....	Interior Department Building, Eighteenth and E Streets N.W.	5,000
Geological Survey.....	Geology and science.....	Interior Department Building..	260,000
Bureau of Education....	Education.....	Pension Office Building, Judiciary Square.	175,000
Office of Indian Affairs.	Indians.....	Interior Department Building..	1,700
Bureau of Mines.....	Mining.....	do.....	15,000
Patent Office.....	Science.....	Patent Office Building, Ninth and F Streets.	100,000
Pension Bureau.....	History.....	Pension Office Building, Judiciary Square.	3,000
Reclamation Service...	Irrigation.....	Eighth and E Streets NW.....	4,000
VIII. Agricultural Department..	Agriculture.....	1355 B Street SW.....	145,000
Bureau of Biological Survey.	Biology.....	do.....	6,650
Bureau of Chemistry...	Chemistry.....	216 Thirteenth Street SW.....	6,600
Bureau of Crop Estimates.	Crops.....	Twelfth and B Streets SW.....	10,000
Bureau of Entomology...	Entomology.....	do.....	15,035
Bureau of Markets.....	Markets.....	1358 B Street SW.....	2,636
Bureau of Plant Industry.	Plants.....	Fourteenth and B Streets SW..	6,900
Dairy Division.....	Dairying.....	Twelfth and B Streets SW.....	2,570
Forest Service.....	Forests.....	930 F Street NW.....	19,345
Office of Farm Management.	Farms.....	224 Twelfth Street SW.....	9,000
Bureau of Public Roads.	Roads and civil engineering.	515 Fourteenth Street NW.....	4,800
Office of Solicitor.....	Law.....	1316 B Street SW.....	1,700
States Relations Service.	Irrigation.....	220 Fourteenth Street SW.....	4,500
Weather Bureau.....	Meteorology.....	Twenty-fourth and M Streets N.W.	30,000
IX. Department of Commerce..	Commerce and statistics.	Commerce Building, Nineteenth and Pennsylvania Avenue.	100,000
Coast and Geodetic Survey.	Geodesy.....	New Jersey Avenue and B Street SE.	10,000
Bureau of Fisheries....	Fish culture.....	Sixth and B Streets SW.....	35,000
Bureau of Standards....	Science.....	Pierce Mill Road.....	20,000
X. Department of Labor.....	Labor statistics.....	Department of Labor Building, 1712 G Street N.W.	50,000

<sup>1</sup> Small collection.<sup>2</sup> About one-third of the library's collections are shelved in the branch libraries.

*List of United States Government Libraries, Washington, D. C.—Continued.*

Name.	Specialty.	Location.	Number volumes.
<b>XI. Independent establishments:</b>			
Library of Congress....	Entire range of literature.	Capitol Hill.....	2,750,000
Government Printing office:			
Superintendent of Documents Library.	United States publications.	North Capitol and H Streets....	225,000
Smithsonian Institution.	Science.....	The Mall, B Street opposite Tenth Street.	275,000
Bureau of American Ethnology.	Anthropology.....	Smithsonian Building.....	35,000
National Museum..	Natural science.....	National Museum Building....	125,000
Pan American Union—Columbus Memorial Library.	Latin America.....	Seventeenth Street between B and C Streets NW.	40,000
Interstate Commerce Commission.	Interstate commerce....	Interstate Commerce Building, Eighteenth and Pennsylvania Avenue.	15,000
Federal Trade Commission.	Tariff and commerce....	Fifteenth and K Streets.....	55,000
Civil Service Commission.	Civil service.....	1724 F Street NW.....	7,000
Public Library of District of Columbia.	General and fiction.....	Mount Vernon Square, Ninth Street and New York Avenue NW.	300,000
<b>Capitol:</b>			
Supreme Court Library <sup>1</sup> .....	Law.....	Capitol.....	180,000
Senate Library.....	Public documents.....	do.....	250,000
House of Representatives.....	do.....	do.....	500,000
United States Court of Customs Appeals.	Law.....	Fifteenth Street and New York Avenue.	1,800
United States Soldiers' Home.....	General and fiction.....	Soldiers' Home grounds.....	15,000

<sup>1</sup> The Supreme Court library is included in the law branch of the Library of Congress.



*Number of Employees of United States Government, June 30, 1917.*

Department or bureau.	Number of employees.		
	Washington, D. C.	Field.	Total.
The White House.....	48	.....	48
Department of State.....	286	942	1,228
Department of Treasury.....	8,435	25,007	33,442
Department of War (civilian).....	4,567	59,754	64,321
Department of Justice.....	1,661	4,653	5,314
Post Office Department.....	<sup>1</sup> 1,507	298,161	299,668
Navy Department (civilian).....	6,926	55,152	62,078
Department of Interior.....	5,171	16,450	21,621
Department of Agriculture.....	4,054	14,835	18,889
Department of Commerce.....	1,659	8,420	10,079
Department of Labor.....	407	2,014	2,421
Independent establishments:			
Library of Congress.....	<sup>2</sup> 574	.....	574
Government Printing Office.....	<sup>3</sup> 4,533	.....	4,533
Smithsonian Institution.....	456	.....	456
Interstate Commerce Commission.....	790	1,472	2,262
Civil Service Commission.....	206	70	276
United States Bureau of Efficiency.....	30	.....	30
Federal Reserve Board.....	66	.....	66
Federal Trade Commission.....	202	.....	202
United States Shipping Board.....	81	<sup>4</sup> 1,000	1,081
United States Tariff Commission.....	53	.....	53
United States Employees Compensation Commission.....	19	.....	19
The Panama Canal.....	111	20,226	20,337
Federal Board for Vocational Education.....	<sup>5</sup> 44	.....	44
District of Columbia.....	6,627	.....	6,627
State, War, and Navy Building (superintendent's office).....	212	.....	212
Miscellaneous commissions (Board of Mediation and Conciliation, American Board of Claims Arbitration Commission, International (Canadian) Boundary Commission, International High Commission (United States Section), International Joint Commission (United States and Canada), Commission of Fine Arts, Arlington Memorial Amphitheater Commission, Lincoln Memorial Commission, Commission on Memorial to Women of Civil War, United States Botanic Garden).....	71	.....	71
War boards and organizations (Committee on Public Information, Council of National Defense, War Trade Board, United States Food Administration, United States Fuel Administration, Alien Property Custodian).....	3,000	800	3,800
Congressional employees.....	1,129	.....	1,129
Total.....	<sup>6</sup> 51,925	508,956	560,881

<sup>1</sup>Includes 246 justices, judges, and court officials in the District of Columbia.

<sup>2</sup>Includes 232 employees in Mall Bag Repair Shop.

<sup>3</sup>Includes 140 employees under Superintendent of Buildings and Grounds.

<sup>4</sup>Includes 500 temporary employees June 30, 1918.

<sup>5</sup>Includes 1,000 field employees November 1, 1917.

<sup>6</sup>Includes employees on November 1, 1917.

<sup>7</sup>Includes 1,600 laborers and temporary employees.

<sup>8</sup>It is estimated that during the fiscal year 1917-18 there was an increase of 50,000 employees in the classified service in Washington, and an increase of 100,000 employees outside of Washington.

*Location of Executive Departments and Bureaus, June, 1918.*

(As a rule, only administrative headquarters of bureaus of the War and Navy Departments are given, due to the changing of location of the various divisions and sections of these bureaus.)

The White House, Executive and Pennsylvania Avenues.

Committee on Public Information, 10 Jackson Place.

Service Bureau (Inquiry Division for general public), Fifteenth and G Streets.

I. Department of State—State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Diplomatic Bureau, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Consular Bureau, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Far Eastern Affairs, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Near Eastern Affairs, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Western European Affairs, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Latin-American Affairs, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Mexican Affairs, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Division of Foreign Intelligence, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Appointments (Great Seal), State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Indexes and Archives, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Rolls and Library (Treaties), State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Citizenship (Passports), 1423 New York Avenue.

Bureau of Accounts, 1423 New York Avenue.

Adviser on Commercial Treaties, 1423 New York Avenue.

Foreign Trade Adviser, 1653 Pennsylvania Avenue.

II. Department of the Treasury, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Division of Appointments, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Division of Bookkeeping and Warrants, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Division of Customs, Bond Building, Fourteenth Street and New York Avenue.

Division of Loans and Currency, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Division of Public Moneys, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Division of Secret Service, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Section of Surety Bonds, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Government Actuary, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Bureau of Publicity, Liberty Loans, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

National War Savings Committee, National Metropolitan Bank Building.

Comptroller of the Currency, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Treasurer of the United States, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

National Bank Redemption Agency, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Internal Revenue Bureau, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

## II. Department of the Treasury—Continued.

Bureau of the Mint, Treasury Building, Fifteenth Street and Pennsylvania Avenue.  
Comptroller of the Treasury, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

## Auditors—

Treasury Department, Auditor's Building, Fourteenth and B Streets SW.  
War Department, Winder Building, Seventeenth and F Streets NW.  
Interior Department, Auditor's Building, Fourteenth and B Streets SW.  
Navy Department, Auditor's Building, Fourteenth and B Streets SW.  
State and Other Departments, Auditor's Building, Fourteenth and B Streets SW.

Post Office Department, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Register of the Treasury, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Federal Farm Loan Bureau, Bond Building, Fourteenth Street and New York Avenue.

Bureau of Engraving and Printing, Fourteenth and D Streets SW.

Bureau of the Public-Health Service, 8 B Street SE.

Hygienic Laboratory, Twenty-fifth and E Streets NW.

The Coast Guard, Bond Building, Fourteenth Street and New York Avenue.

Supervising Architect's Office, Treasury Building, Fifteenth Street and Pennsylvania Avenue.

Bureau of War-Risk Insurance, New National Museum, Tenth and B Streets NW.

General Supply Committee, Auditor's Building, Fourteenth and B Streets SW.

Solicitor of the Treasury, Bond Building, Fourteenth Street and New York Avenue.

## III. Department of War—State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

General Staff Corps, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

War College Division, Army War College Building, foot Four-and-a-half Street SW.

Military Intelligence, Fifteenth and M Streets.

Board of Ordnance and Fortification, Union Trust Building, Fifteenth and H Streets.

Militia Bureau, Mills Building, Seventeenth Street and Pennsylvania Avenue.

Office of Chief Coast Artillery, Old Land Office Building, Seventh and E Streets.

Office of Chief Field Artillery, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Office of Judge Advocate General, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Office of Inspector General, 1624 H Street.

Office of Adjutant General, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Office of Provost Marshal General, Old Land Office Building, Seventh and E Streets.

Office of Quartermaster General, Eighteenth Street and Virginia Avenue.

Cantonment Division, Seventh and B Streets NW.

Depot Quartermaster, Seventeenth and F Streets NW.

Personnel: Civilian, enlisted, and commissioned, Seventh and B Streets.

Construction Division, Seventh and B Streets.

Office of Surgeon General, Seventh and B Streets.

Army Medical School, 462 Louisiana Avenue.

Medical Museum and Library, Seventh and B Streets SW.

Attending Physician and Dispensary, 1106 Connecticut Avenue.

Walter Reed Hospital, Georgia Avenue, near District line.

Office of Chief of Engineers, Sixth and B Streets.

Board of Engineers, Rivers and Harbors, Southern Building, Fifteenth and H Streets.

Office of Public Buildings, Grounds, and Washington Monument, 1729 New York Avenue.

United States Engineer Office (local), Southern Building, Fifteenth and H Streets.

Director General Military Railroads, Sixth and B Streets.

Engineer Depot, 1488 U Street NW.

Engineers' School, Washington Barracks, foot Four-and-a-half Street SW.

Office of Chief of Ordnance, Sixth and B Streets.

Personnel: Civilian, enlisted, and commissioned, Hooe Building, 1880 F Street NW.  
Nitrata, Production, and Other Divisions, Sixth and B Streets NW.

## III. Department of War—Continued.

Office of Chief Signal Officer, 1667 H Street.

Personnel: Civilian, enlisted, and commissioned, 1708 New York Avenue.

Bureau of Military Aeronautics, Seventh and B Streets.

Aircraft Production Board, Four-and-a-half Street and Missouri Avenue.

Bureau of Insular Affairs, Mills Building, Seventeenth Street and Pennsylvania Avenue.

Tank Corps, 1860 E Street NW.

Army camps in District of Columbia or vicinity—

American University Training Camp, American University Park, Massachusetts and Nebraska Avenues.

Artillery Camp, St. Asaph, Va.

Camp Meigs, Fifth Street and Florida Avenue NE.

Infantry Garrison, East Potomac Park.

Fort Myer Officers' Training Camp, Fort Myer, Va.

Camp Meade, Admiral, Md.

Camp A. A. Humphreys, Accotink, Va.

## IV. Department of Justice, Justice Building, Vermont Avenue and K Street.

Solicitor General, Justice Building, Vermont Avenue and K Street.

Assistant to Attorney General, Anti-Trust Cases, Justice Building, Vermont Avenue and K Street.

Assistant to Attorney General, Alien Enemy Property, Justice Building, Vermont Avenue and K Street.

Special Assistant to Attorney General for War Work, Justice Building, Vermont Avenue and K Street.

Division of Investigations, Justice Building, Vermont Avenue and K Street.

Superintendent of Prisons, Justice Building, Vermont Avenue and K Street.

Pardon and Title Attorneys, Justice Building, Vermont Avenue and K Street.

Solicitors for Departments:

State Department—State, War, and Navy Building.

Treasury Department, Bond Building, Fourteenth Street and New York Avenue.

Interior Department, Interior Building, Eighteenth and F Streets.

Post Office Department, Post Office Building, Eleventh Street and Pennsylvania Avenue.

Agricultural Department, 1816 B Street SW.

Internal Revenue, Treasury Building.

Commerce Department, Commerce Building, Nineteenth Street and Pennsylvania Avenue.

Labor Department, 1712 G Street.

## V. Post Office Department, Post Office Building, Eleventh Street and Pennsylvania Avenue.

First Assistant Postmaster General, Eleventh Street and Pennsylvania Avenue.

Division of Post Office Service, Eleventh Street and Pennsylvania Avenue.

Division of Postmasters' Appointments, Eleventh Street and Pennsylvania Avenue.

Division of Dead Letters, City Post Office Building, North Capitol Street and Massachusetts Avenue.

Second Assistant Postmaster General, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Railway Adjustments, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Foreign Mails, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Railway Mail Service, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Third Assistant Postmaster General, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Finance, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Stamps, City Post Office Building, North Capitol Street and Massachusetts Avenue.

Division of Money Orders, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Registered Mails, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Classification, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Postal Savings, City Post Office Building, North Capitol Street and Massachusetts Avenue.

V. Post Office Department—Continued.

Fourth Assistant Postmaster General, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Rural Mails, Post Office Department Building, Eleventh Street and Pennsylvania Avenue.

Division of Equipment and Supplies, City Post Office Building, North Capitol Street and Massachusetts Avenue.

VI. Department of the Navy—State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Office of Naval Records and Liberty, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Naval Consulting Board, Seventeenth and G Streets.

Commission on Training Camp Activities, Nineteenth and G Streets NW.

Judge Advocate General, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Office of Naval Operations, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Communication Service, Southern Building, Fifteenth and H Streets.

Cable Censor, Southern Building, Fifteenth and H Streets.

Arlington Radio Station, Arlington, Va.

Office of Naval Intelligence, Corcoran Court, New York Avenue.

Office of Gunnery Exercises and Engineering, Navy Annex, 1734 New York Avenue.

Aviation Section, Navy Annex, 1734 New York Avenue.

Coast Guard (during war), Bond Building, Fourteenth Street and New York Avenue.

Inspection and Survey, Southern Building, Fifteenth and H Streets.

Bureau of Navigation, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Hydrographic Office, Navy Annex, 1734 New York Avenue.

Naval Observatory, Georgetown Heights, Wisconsin and Massachusetts Avenues.

Division of Naval Militia Affairs, 817 Fourteenth Street.

Division of Naval Reserve (men), Fourteenth and H Streets.

Division of Naval Reserve (officers), Real Estate Trust Building, Fourteenth and H Streets.

Flying Corps, Navy Annex, 1734 New York Avenue.

Bureau of Yards and Docks, American National Bank Building, 1317 F Street.

Bureau of Ordnance, Interior Department Building, Nineteenth and F Streets.

Bureau of Construction and Repair, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Steam Engineering, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Supplies and Accounts, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.

Bureau of Medicine and Surgery, Navy Annex, 1734 New York Avenue.

Naval Hospital, foot of Twenty-fourth Street NW.

Naval Medical School, foot of Twenty-fourth Street NW.

Headquarters of Marine Corps, Navy Annex, 1734 New York Avenue.

Marine Corps Barracks, Eighth and G Streets SE.

VII. Department of the Interior, Interior Department Building, Eighteenth and F Streets.

Alaskan Engineering Commission, Interior Department Building, Eighteenth and F Streets.

District of Columbia Institutions:

St. Elizabeth's Hospital, Nichols Avenue, Anacostia, D. C.

Columbian Institution for the Deaf, Kendall Green, Florida Avenue NE.

Howard University, Howard Place and Georgia Avenue NW.

Freedmen's Hospital, Fourth and College Streets.

General Land Office, Interior Department Building, Eighteenth and F Streets.

Office of Indian Affairs, Interior Department Building, Eighteenth and F Streets.

Bureau of Pensions, Pension Building, Judiciary Square, Fifth and G Streets.

Patent Office, Patent Office Building, Seventh and F Streets.

Bureau of Education, Pension Building, Judiciary Square, Fifth and G Streets.

Geological Survey, Interior Department Building, Eighteenth and F Streets.

Reclamation Service, Eighth and E Streets.

Bureau of Mines, Interior Department Building, Eighteenth and F Streets.

American University Experiment Station, American University Park, Massachusetts and Nebraska Avenues.

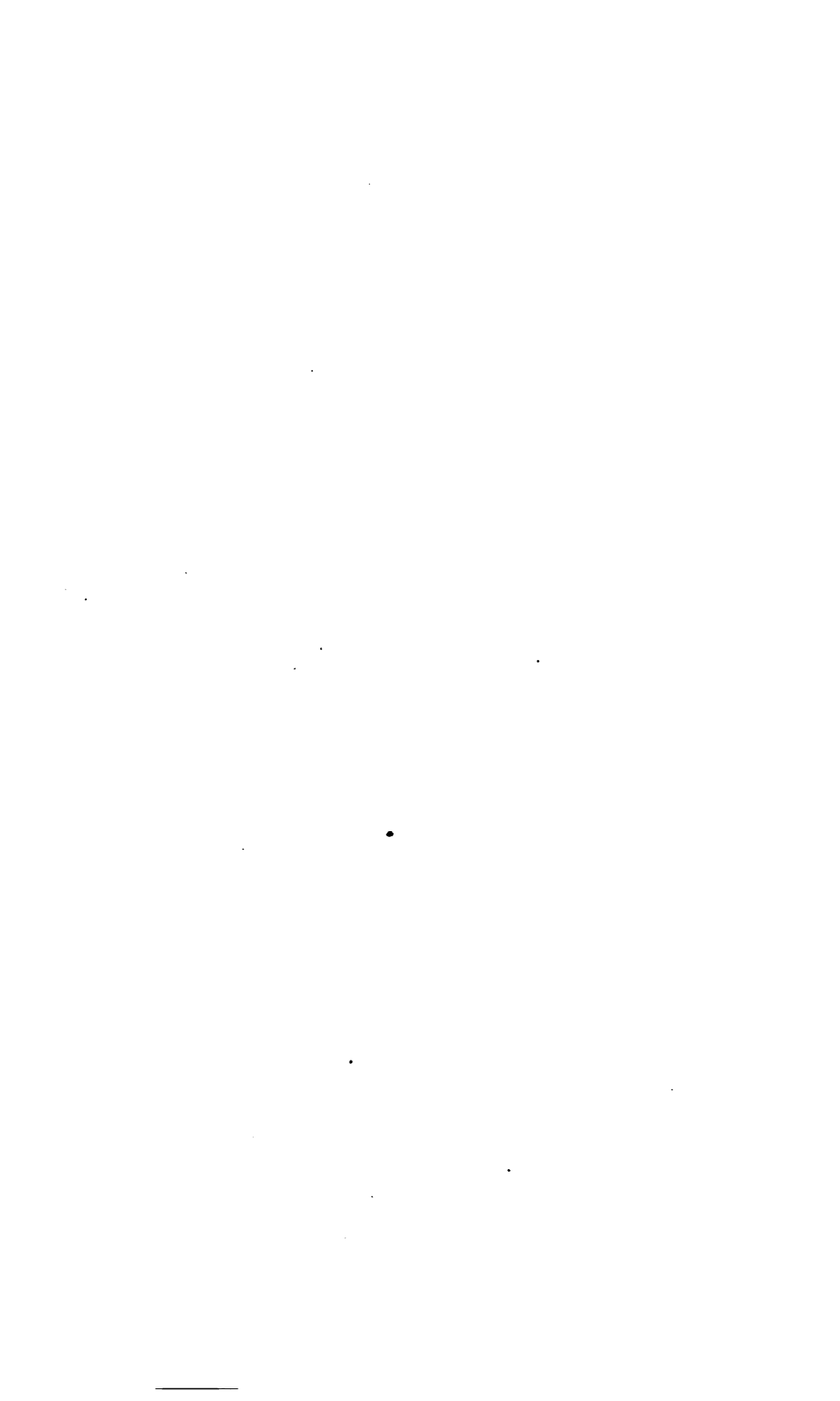
National Park Service, Interior Department Building, Eighteenth and F Streets.

Superintendent of the Capitol Building and Grounds, Capitol Building.

- VIII. Department of Agriculture, the Mall, between Twelfth and Fourteenth Streets SW.  
 Division of Publications, 215 Thirteenth Street SW.  
 Office of Farm Management, 224 Twelfth Street SW.  
 Weather Bureau, Twenty-fourth and M Streets NW.  
 Solar Radiation Research Section, Massachusetts and Nebraska Avenues NW.  
 Bureau of Animal Industry, east wing, Agricultural Department Building.  
 Animal Husbandry, Bush Building, 710 E Street.  
 Meat Inspection Division, Bush Building, 710 E Street NW. Local office,  
 Munsey Building, 1829 E Street NW.  
 Experiment Farm (600 acres), Beltsville, Md.  
 Bureau of Plant Industry, west wing, Agricultural Department Building.  
 Arlington Experiment Farm, Arlington, Va.  
 Forest Service, Atlantic Building, 928 F Street NW.  
 Bureau of Chemistry, 216 Thirteenth Street SW.  
 Bureau of Soils, east wing, Agricultural Department Building.  
 Bureau of Entomology, Agricultural Department Building.  
 Bee Culture Division, Drummond, Md.  
 Bureau of Biological Survey, 1858 B Street SW.  
 Bureau of Crop Estimates, Agricultural Department Building.  
 States Relations Service, 220 Fourteenth Street SW.  
 Bureau of Public Roads, Willard Building, 518 Fourteenth Street NW.  
 Bureau of Markets, 1858 B Street SW.  
 Insecticide and Fungicide Board, 220 Thirteenth Street SW.  
 Federal Horticultural Board, Agricultural Department Building.
- IX. Department of Commerce, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Bureau of the Census, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Bureau of Foreign and Domestic Commerce, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Bureau of Standards, Pierce Mill Road, near Connecticut Avenue.  
 Bureau of Fisheries, Sixth and B Streets SW.  
 Bureau of Lighthouse, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Coast and Geodetic Survey, New Jersey Avenue, near B Street SE.  
 Bureau of Navigation, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Steamboat-Inspection Service, Commerce Building, Nineteenth Street and Pennsylvania Avenue.
- X. Department of Labor, Labor Building, 1712 G Street NW.  
 United States Employment Service, Sixteenth and I Streets. (Local office, 1410 Pennsylvania Avenue.)  
 Bureau of Immigration, Labor Building, 1712 G Street.  
 Bureau of Naturalization, Labor Building, 1712 G Street.  
 Bureau of Labor Statistics, Labor Building, 1712 G Street.  
 Children's Bureau, Labor Building, 1712 G Street.  
 National War Labor Board, Labor Building, 1712 G Street.  
 Bureau of Housing, 618 G Street.
- XI. Independent Establishments:  
 Library of Congress, East Capitol and First Streets SE.  
 Copyright Office, East Capitol and First Streets SE.  
 Government Printing Office, North Capitol and G Streets.  
 Superintendent of Documents, H Street, near North Capitol Street NW.  
 Smithsonian Institution, the Mall, near Seventh Street SW.  
 National Museum, the Mall, foot of Tenth Street NW.  
 Bureau of American Ethnology, Smithsonian Building.  
 International Exchange Service, Smithsonian Building.  
 Astrophysical Observatory, Smithsonian Building.  
 National Zoological Park, Rock Creek Park, Adams Mill Road.  
 National Academy of Sciences, Smithsonian Building.  
 National Research Council, 1023 Sixteenth Street NW.  
 American Historical Association, Smithsonian Building.  
 Pan American Union, Seventeenth Street between B and C Streets NW.  
 Interstate Commerce Commission, Interstate Commerce Building, Eighteenth Street and Pennsylvania Avenue.

**II Independent Establishments—Continued.**

- Director General of Railroads, Interstate Commerce Building.  
 Committee on Inland Waterways, 601 G Street.  
 The Panama Canal, Mills Building Annex, 1709 G Street.  
 Federal Reserve Board, Treasury Building, Fifteenth Street and Pennsylvania Avenue.  
 Federal Trade Commission, Davidson Building, Fifteenth and K Streets NW.  
 United States Tariff Commission, 1322 New York Avenue.  
 Civil Service Commission, 1724 F Street.  
 United States Bureau of Efficiency, Southern Building, Fifteenth and H Streets.  
 United States Board of Mediation and Conciliation, Southern Building, Fifteenth and H Streets.  
 United States Employees' Compensation Commission, Union Trust Building, Fifteenth and H Streets.  
 Federal Board for Vocational Education, Oursay Building, Eighth and G Streets.  
 Council of National Defense, all divisions at Eighteenth and D Streets, except—  
 Room Registration Bureau, 1321 New York Avenue.  
 Science and Research Committee, Munsey Building, 1329 E Street.  
 States Council Section, 1217 Connecticut Avenue.  
 Women's Committee, 1814 N Street.  
 War Industries Board, Eighteenth and D Streets SW.  
 United States Shipping Board, 1819 F Street NW.  
 Emergency Fleet Corporation, 140 Broad Street, Philadelphia, Pa. (local office, 1819 F Street NW.).  
 United States Food Administration, Nineteenth and D Streets.  
 United States Fuel Administration, Twentieth Street and New York Avenue.  
 War Trade Board, Twentieth and C Streets NW.  
 National Advisory Committee for Aeronautics, Munsey Building, 1329 E Street.  
 Aircraft Board, Munsey Building, 1329 E Street.  
 Allen Property Custodian, Sixteenth and P Streets.  
 War Finance Corporation, Treasury Building, Fifteenth Street and Pennsylvania Avenue.  
 International Joint Commission, Southern Building, Fifteenth and H Streets.  
 International Mexican Boundary Commission, care State Department.  
 Commission for Equitable Distribution of Waters of Rio Grande, care State Department.  
 International Canadian Boundary Commissions, National Savings and Trust Co. Building, 719 Fifteenth Street.  
 International High Commission, Treasury Building, Fifteenth Street and Pennsylvania Avenue.  
 United States Geographic Board, Office of Secretary, Commerce Building, Nineteenth Street and Pennsylvania Avenue.  
 Commission of Fine Arts, Lemon Building, 1729 New York Avenue.  
 Arlington Memorial Amphitheater Commission, 1729 New York Avenue.  
 National Homes for Disabled Volunteer Soldiers, Dayton, Ohio.  
 United States Soldiers' Home, Soldiers' Home Grounds, D. C.  
 Board of Road Commissioners for Alaska, State, War, and Navy Building, or Juneau, Alaska.  
 Commission on Navy Yards and Naval Stations, State, War, and Navy Building, Seventeenth Street and Pennsylvania Avenue.  
 Board of Indian Commissioners, Interior Department Building, Eighteenth and F Streets.  
 American National Red Cross, Seventeenth Street between D and E Streets.  
 Government of the District of Columbia, District Building, Fourteenth Street and Pennsylvania Avenue.





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DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 3

AGRICULTURAL INSTRUCTION IN THE  
HIGH SCHOOLS OF SIX EAST-  
ERN STATES

By C. H. LANE

CHIEF SPECIALIST IN AGRICULTURAL EDUCATION  
UNITED STATES DEPARTMENT OF AGRICULTURE



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918





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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, January 16, 1918.*

SIR: Believing that at its present stage of development, instruction in agriculture in schools of secondary grade might be improved and the general cause of agricultural education promoted by the publication of a clear and comprehensive statement of the character of instruction and the method of administering agricultural courses in some of these schools, I requested the director of the States Relations Service of the Department of Agriculture to detail its chief specialist in agricultural education, Mr. C. H. Lane, to visit and study certain high schools in six eastern States and prepare such a statement for this bureau. This was done on the basis of an agreement, in existence for several years, for the cooperation of this bureau and the Department of Agriculture whenever it may seem desirable. I am transmitting for publication as a bulletin of the Bureau of Education the result of Mr. Lane's work.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.



## AGRICULTURAL INSTRUCTION IN THE HIGH SCHOOLS OF SIX EASTERN STATES.

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This report is a result of a cooperative agreement between the Bureau of Education of the Department of the Interior and the States Relations Service of the Department of Agriculture. The study included in this report was undertaken with a view to determining the character of instruction in agriculture in certain high schools in eastern States and the methods of administration.

General returns are given for the classroom, the laboratory, and in the adoption of home and school projects. The returns are based upon information obtained from teachers of agriculture in the States visited, supplemented by reports from students, by questionnaire, and by personal visit.

In all the States visited and reported upon there is an official in the State department of education who is responsible for the administration and supervision of agriculture in the high schools. These State officials were of great assistance to the investigator in getting at the real situation so far as methods of instruction and supervision were concerned.

### METHOD OF CLASSROOM.

The use of textbooks was regular in some, usually in all, of the agricultural subjects. Ten high schools did not use regular texts, but made assignment of topic references in books or bulletins the basis of recitation. Such assignments were made to the class as a whole for recitation, and individually to members of the class for special report. The class recitation as heard did not seem to differ in plan from that of regular text classes, but individual reports appeared to call forth a rather more full and critical discussion by students than in the usual case. Pupils who would not think of disputing the findings of a book did not hesitate to differ with conclusions stated by a fellow student.

Even when the regular text was the basis of classroom work it was supplemented in 23 of the high schools by topic assignments, commonly in connection with projects, which is the usual method of applying classroom instruction to practical farming in the high schools visited. Under the influence of the project method of agricultural instruction, the tendency to break away from the textbook

order of topics was very marked. In that way the text is made useful in preparation for practical application, or more rarely, to answer questions already raised by participation of the pupils in some project activity.

A small number of teachers report some minor departure from the order of a text, while something like 90 per cent of the teachers made the text subserve their own notions of sequence in topics. It is not unfair to say that the great majority of the teachers serve as media for the interpretation of the texts rather than as teachers who make the function of the text an interpretation and supplementation of their own teachings.

*Recitation.*—As may be inferred from the foregoing, the question and answer method by which the teacher attempts to learn whether or not the class has read the assignment or listened to the lecture prevails in the classroom.

In 73 schools it was the major method of procedure in the classroom. Thirty-two schools used lectures in addition, only 7 high schools, however, making the lecture dominant. The latter procedure was found in those States where the project method of agricultural instruction has not become a fixed part in teaching, and also in most cases the teachers are those having been recently graduated from an agricultural college without having had courses in methods of teaching agriculture under the project plan.

*Supervised study.*—Provision for supervised study in the class period was made definite in many schools. Just what attempt is ordinarily made to help students study in this period it is hard to say. A few teachers spent the time set apart for study in completing their lectures and a few in a continuation of questions upon the text. Two sat down at their desks and left the class to its own devices. One assigned the writing of a brief composition upon farmyard manure and gave his time to aiding in organization.

#### METHOD OF THE LABORATORY.

In the laboratory in farm crops and soils the following of a series of set experiments by direction of a printed manual or mimeographed sheets was the usual procedure in two States. In most cases students work as individuals, each one responsible for the doing and recording of the whole number of experiments. The plan of procedure is that used in the physics and chemistry of the high school. In a few cases poverty of equipment was such that no ingenuity in the rotation of apparatus could give individuals a chance, and the class worked in groups.

The most common piece of apparatus in the schools is a hand-power Babcock tester. The presence of this piece of apparatus is

indicative of the dairy work of the high schools. The restriction of dairy laboratory work to milk testing in such schools is almost inevitable.

The amount of time given to testing milk is very variable. Sometimes merely a test by each boy or even by the teacher makes up all the work. More frequently, however, the work is motivated by testing of the pupil's home herd or individual cows. Sometimes the high school becomes the medium for testing herds in the community.

In farm management, laboratory work consists almost wholly in the working of problems in cost accounting, planning of rotations, and mapping of farms and buildings. To this is sometimes added survey work on the home farm or on neighboring farms. Field surveying with the compass, transit, level, or plane table may be a part of the work, though this is infrequent.

#### METHOD OF OUTDOOR WORK.

The home project plan of instruction was followed at every school visited. In all these schools observation is accompanied by or subordinated to practice in agricultural processes; that is, students do not only witness the processes of spraying, pruning, judging of live stock, selection of seed, working of farm machinery, and the like, but usually after a demonstration by the teacher take part in such activities themselves, not often enough to attain any marked efficiency, but sufficient to get a first-hand acquaintance with the nature of the work. In a few cases the organization of pruning or spraying squads, of judging teams, and the performance of community service gave sufficient practice to the attainment of unusual skill.

Only in the States of Pennsylvania, New York, Massachusetts, and New Hampshire are the agricultural teachers retained during the summer months for supervision of home project work.

The contents of the following State reports will give a more adequate idea in detail as to the method of administration and follow-up work in agricultural instruction.

#### MASSACHUSETTS.

##### STATE AID.

The Massachusetts system of vocational agricultural instruction includes separate classes and departments in high schools. In the case of a school the State pays one-half the maintenance expenses, in the case of a department two-thirds of the salary of the agricultural instructor.

Among the first steps toward securing State aid for an agricultural department in a high school, the following are of primary importance:

(1) Request a conference with the agricultural agent of the State

board of education; the initiative may be taken by the local school authorities, or by any other interested persons; (2) appoint an advisory committee of five progressive farmers, including at least one farmer's wife, and, preferably, one or more of the parents of boys who will enter the agricultural course; and (3) show conclusively by petition that the town or city (a) understands what is proposed, (b) desires such a department, (c) will provide adequate funds for salary and equipment, (d) will provide proper quarters, (e) guarantees an adequate agricultural enrollment (15 over 14 years old, of whom at least 12 are boys, would meet this requirement), and (f) pledges the hearty cooperation of parents and other interested citizens for carrying out, under economic home-farm conditions, the productive projects to be taught and supervised by the agricultural instructor.

For the first year of an agricultural department in a high school \$1,500 may be regarded as a moderate estimate—\$1,200, or thereabouts, for salary and the balance for special agricultural supplies and equipment.

#### INSTRUCTORS.

The board of education has a voice in choosing only the teacher of agriculture. Cordial cooperation between the agricultural instructor and other members of the high-school staff may, however, be secured through the superintendent of schools. With him rests the selection of candidates for consideration by the school committee and nomination for the appointment of preferred candidate or candidates.

No man can be considered qualified for an agricultural instructorship who is not a good teacher and both able and willing to lead his boys in their practical work for the purpose of setting them a proper standard and giving them proper training for those phases of farming which require special knowledge and skill.

*Professional improvement.*—Since no young man entering upon the teaching of agriculture can be supposed to be a master of farming, either as a profession or as a business, the State board of education has made definite provision for professional improvement work. Each instructor must devote approximately two months a year to this purpose. One month is allowed for vacation, and nine months are devoted to teaching and supervision of projects.



*Minimum qualifications of prospective instructors.*  
(For county or separate agricultural schools and high-school agricultural departments.)

Specifications.	Farm work instructor.	Related study or technical instructor.	Farm work and related study instructor.	Nonagricultural instructor.
(1) <i>Age:</i> (A) Without successful teaching experience. (B) With successful teaching experience.	21.....	21.....	21.....	No such applicant considered.
(2) <i>Farm experience</i> .....	21.....	21.....	21.....	21.
(3) <i>Academic education</i> .....	Eight calendar years under farming conditions like those in Massachusetts.	Two calendar years, and vacations during agricultural school or college course.	Eight calendar years in farming if only special agricultural courses have been taken; 4 calendar years in farming if 2 years or equivalent in agricultural courses have been taken.	Enough knowledge of farming to enable the instructor to understand the aim of vocational agricultural education, and a natural inclination toward the betterment of country living.
(4) <i>Technical education</i> .....	Grammar graduate.....	High school or agricultural school graduate.	High school or agricultural school graduate.	College or normal school graduate.
(5) <i>Professional education</i> .....	Special courses in agriculture. Approved study of home-project methods of teaching agriculture.	Two years or equivalent in agricultural courses. Courses in home-project methods of teaching agriculture and related studies.	Two years or equivalent in agricultural courses. Approved study of home-project methods of teaching agriculture and related studies.	Courses in subjects to be taught. Course in pedagogy and one year of successful teaching experience.
(6) <i>Personality</i> .....	Satisfactory and with presumption of ability to handle pupils (personal interview required).	Good health (attested by physician's certificate).	Good health (attested by physician's certificate).	Good health (attested by physician's certificate).
(7) <i>Physique</i> .....	Good health (attested by physician's certificate) and no deformity.	Good health (attested by physician's certificate) and no deformity.	Good health (attested by physician's certificate) and no deformity.	Good health (attested by physician's certificate).
(8) <i>Sex</i> .....	Men only.....	Men only.....	Men only.....	Men only.

1 From Bul. Mass. Bd. Educ., 1916, No. 23, whole number 74.

By professional improvement is meant such programs of work, observation study, and lesson planning as shall be approved in each case from year to year by the board of education. An annual winter conference is held at the Massachusetts Agricultural College. The object of this conference is (1) to get hold of the specialists of the college for clearing up technical difficulties or getting from them technical information, such as advice on rations for dairy cows or poultry; (2) to get in touch with the county agents and those who are directing their work and assisting in the shaping of their policies, so that the activities of the county agents and those of the agricultural instructors when they touch shall be in harmony and be supplementary one to the other; (3) the discussion of methods of instruction. For a newcomer to the State such a conference affords an admirable opportunity to make first-hand acquaintance with the specialists on the college staff, and to know the doctrines they hold to be important for the improvement of Massachusetts farming. Usually a program of professional improvement consisting of one month of investigation at home, or at a distance, and one month of preparation of lesson outlines and teaching materials is to be preferred.

#### COOPERATIVE RELATIONSHIP.

The agricultural departments work in close cooperation with the Massachusetts Agricultural College and the United States Department of Agriculture in all joint undertakings, such as the promotion of club work, making of farm management surveys, demonstration of improved methods of farming. Instructors in departments cooperate closely with the farm bureaus in their counties. A Massachusetts law provides that there shall not be county agent farm bureaus in counties where there are county agricultural schools.

School projects are important for illustrating approved methods and providing convenient facilities for group teaching in observational and practice work; but more and more emphasis is being placed on home projects not merely because home projects are an aid to keeping the study of agriculture from being too bookish but because each project generally becomes a demonstration in its neighborhood, of the better method of farming and is commonly followed in that vicinity, and because things done by farmers on their own farms are usually more convincing to farmers as to value of improved methods than are things done on the premises of the school.

#### COURSE OF STUDY.

In agricultural departments of high schools one-half the school day is devoted to project study and project work. The ratio of work to study varies from time to time and from season to season according to the requirements of the projects which are in prepara-

tion or under way. Agricultural departments are looked upon as being in session 40 weeks a year, generally from March 1 to Thanksgiving. The schools are looked upon as in session 50 weeks a year. All pupils keep accurate bookkeeping accounts and make written reports on their projects during the summer school vacation. Stimulated by frequent supervision, in some ways summer work is the most important teaching season of the year. Pupils in departments in high schools may devote one-half of their time to regular high-school subjects.

The curriculum of Hopkins Academy, as given below, is a fair example of courses in vocational agriculture and its relation to other subjects in the curriculum in vocational departments in public high schools.

*Curriculum of Hopkins Academy.*

FIRST YEAR.

Agricultural subjects.	Nonagricultural subjects.	Extras—Optional.
<p><b>Study and projects in Kitchens</b>  <i>Culinary:</i> Soil, seeds, vegetables, and small fruits.  <i>Ornamental Planting:</i> Shrubbery, flowering plants, lawns.  <i>Farm Shopwork:</i> Making and repairing for home and school, hotheds, cold frames, and other garden equipment.                      (Four periods each day, 5 days each week.)</p>	<p><b>English:</b> (4 hours a week). Composition and application of literature.  <i>Introductory or General Science</i> (3 hours a week).  <i>Social Science I</i> (often called community civics) (3 hours a week).  <i>Chorus Music</i>, 1-2.  <i>Physical Training</i>, 2.</p>	<p><i>Algebra</i>, 5.  <i>Mechanical Perspective</i>, 3.</p>

SECOND YEAR.

<p><b>Study and projects in Small Animals:</b> Poultry, bees, sheep, and swine.  <i>Buildings and Equipment</i>, for small animals.  <i>Home-Grown Crops</i> for small animals.  <i>Farm Shopwork</i> allied to the projects.</p>	<p><b>English</b> (5 hours a week). As in first year.  <i>Biology</i> (plant and animal).                      Special correlations (5 hours a week).  <i>Drawing:</i> Plans, sections, elevations, 2.  <i>Chorus Music</i>, 1-2.  <i>Physical Training</i>, 2.</p>	<p><i>Geometry</i>, 5.  <i>French</i>, 5.</p>
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THIRD YEAR.

<p><b>Study and projects in Farm Animals:</b> Types, breeding, management.  <i>Dairy Management.</i>  <i>Farm Buildings:</i> Sanitation and conveniences, plans, construction, etc.  <i>Farm Crops</i> for keeping the animals, etc.  <i>Farm Machinery and Implements.</i></p>	<p><b>English</b> (4 hours a week).  <i>Chemistry</i> (5 hours a week).  <i>United States History and Civics</i> (elective, 5 hours a week).  <i>Chorus Music</i>, 1-2.  <i>Physical Training</i>, 2.</p>	<p><i>French</i>, 5.</p>
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FOURTH YEAR.

<p><b>Study and projects in Fruit Growing.</b>  <i>Market Gardening.</i>  <i>Buildings and Appliances.</i>  <i>Management and Accounts.</i>  <i>Farm Shopwork.</i>  <i>Home half-day</i> (usually afternoons) third and fourth year classes combined.</p>	<p><b>English</b> (4 hours a week).  <i>Physics</i> (5 hours a week).  <i>Sciences</i>—all with strong practical application. Five hours includes double laboratory periods, counted as one hour only.  <i>Chorus Music</i>, 1-2.  <i>Physical Training</i>, 2.</p>	<p><i>French</i>, 5.  <i>Modern History</i>, 5.  <i>Review Mathematics</i>, 5.</p>
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*Farm shopwork.*—In some departments most of the projects in farm shopwork are carried out in the winter during the special agricultural instructor's vacation and are taught by the manual training teacher. In such cases the projects are planned by the pupils and approved in advance by the agricultural instructor. In other cases the agricultural instructors themselves teach their boys all necessary projects in farm shopwork. This work includes, among other things, making and repairing for home and school use hotbeds, cold frames, etc.

*Related study.*—The agricultural instructors deal with the various sciences in the curriculum only so far as they have something which may be made to contribute to the understanding of efficiency of the agricultural projects.

In a department it is generally necessary for the agricultural instructor himself to sort out and teach most of the correlations of the various sciences with agriculture required for an understanding of his pupils of their projects. He gives no attention to the teaching of any science as such. All of his teaching of botany, chemistry, physics, biology, mathematics, and accounting is confined to their applications to the projects of his pupils and the requisite skill and speed of his pupils in working out those applications.

It is the experience of Mr. R. W. Stimson, of the State board of education, that team work between the special agricultural instructor and the teacher or teachers of science and other subjects in the high school can not be counted upon. There have been encouraging instances of it, and there is to-day a tendency in all teaching toward correlating instruction with the environment of the pupils. Few distinctively agricultural pieces of apparatus are to be found in the science laboratories of high schools. A fair statement, therefore, of the prevailing conditions hardly warrants describing the training of agricultural pupils in high schools as being more than 50 per cent agricultural.

#### HOME EQUIPMENT.

No farm is required. Farm products, methods of production, farm buildings and equipment are studied on farms in the vicinity and at the homes of the pupils. Practice work under economic conditions is proving to be better than practice work under school conditions, providing practice work in the former case is given proper educational value by study at the school, in the greenhouse, and elsewhere, of all factors involved in the production and marketing of greenhouse crops.

Three high schools have fruit trees on the school premises which are taken care of by the pupils in the agricultural departments.

Several departments have conducted campaigns by pupils for eradication of nests of insects injurious to fruit, prizes being offered by local persons or organizations interested and by the State board of agriculture. As many as 1,200 trees have been pruned and sprayed in a single season by the pupils in a single department.

It is thought that there may be an advantage for a high school that has neither land nor live stock to have a well-rounded farm equipment of hand tools, including tools for pruning, sprayers, seed sowers, wheel hoes, and the like.

*Classroom and its equipment.*—Most agricultural departments are limited to a suitable combination room for study. Ordinary school desks are not suitable. In working out a problem in connection with the home project, more elbow room than that afforded by the ordinary school desk is required. Flat-topped desks, or table space measuring about 2½ to 3 feet per pupil, meet the needs of the agricultural classroom. The agricultural classroom generally presents the appearance of a combination of classroom and science laboratory. Water and gas are found to be highly desirable. The best books, bulletins, periodicals, and card-indexing systems dealing with agricultural subjects are available.

Several examples may be given of the work done in agricultural departments in high schools, but the department at Concord may suffice. This department occupies one floor of a two-story structure adjacent to the high-school grounds. Besides a small hallway, there is a large study and laboratory room, a smaller study room, and an office. The school grounds afford a limited amount of practice work in ornamental planting. Market gardening and fruit growing predominate.

It is this school that has established the most noteworthy cooperative arrangements with owners of greenhouses for practice work in growing market garden crops under glass. This department owns a considerable practical farm equipment, such as pruning tools, hand sprayers, and poultry appliances. Some of the best home project work in the State is being done by this department.

This has a two-teacher department, the enrollment having increased from 20 to 30. The outlay for special equipment, including classroom furniture, probably has not exceeded \$1,500. The department renders valuable assistance to the local board of health by making a total solids and fat determination of nine samples of nine different milk dealers in the town on request. A sediment test is also made. The results of these tests are put on a woolen disk and exposed each month in the window of a local drug store, and the tests of the milk are posted in the local paper, a sample of which is here indicated:

I hereby certify that I have analyzed and obtained these results from the milk marked as follows:

	Total solids.	Fat.	Water.
Geo. B. Clark.....	12.90	4.25	Clean.
C. B. Jersey.....	14.19	5.85	Do.
A. H. Higginson.....	11.94	3.70	Do.
Chas. Moulton.....	10.39	3.20	Do.
Punkatasset farm.....	12.41	4.20	Do.
I. Lovering.....	11.47	3.84	Do.
Geo. Williams.....	11.78	3.90	Do.
Bonnie Brook.....	11.90	3.50	Do.
Simon Olsen.....	11.82	3.43	Do.
J. B. Cossar.....	11.48	3.65	Do.

HARRY E. TUTTLE, *Inspector.*

A recent bulletin of the Massachusetts Board of Education is entitled, "The County Agricultural School and the High School Agricultural Department in Massachusetts." Their requirements and advantages are stated and compared.

## NEW HAMPSHIRE.<sup>1</sup>

### LEGISLATION.

There is no direct State aid for vocational agricultural instruction in New Hampshire. The department of public instruction, however, does have the power of approval or disapproval of high schools, and disapproval of any given school operates to prevent that school from receiving tuition from pupils coming from towns having no high schools. In other words, indirectly a high school needs the approval of the department of public instruction in order to receive tuition pupils from towns authorized under the laws of the State to pay high-school tuition. Such authority given to the State department of public instruction secures identically the same results, so far as vocational agricultural instruction in the high schools is concerned, as in States having legislation providing for vocational agricultural instruction.

### QUALIFICATIONS OF TEACHERS OF AGRICULTURE.

The department of public instruction acts in nothing but an advisory capacity so far as the appointments of vocational teachers of agriculture are concerned. The State department of public instruction requires as a condition of approval that teachers of agriculture shall be agricultural college graduates. All but 2 of the 30 teachers of agriculture in high schools are agricultural college graduates, and those 2 have done special work fitting themselves for teaching this work.

<sup>1</sup> The author is under obligation to Mr. W. H. Whitcher, of the State department of education, for valuable assistance.

## COURSE OF STUDY AND EQUIPMENT TO BE APPROVED.

There is no hard and fast rule in regard to equipment. Schools in different sections of the State stress different lines of work; therefore the equipment has to be adapted to the particular course of study adopted by a given school and approved by the State department of public instruction. The course of study in agriculture, as indicated below, is a fair example of courses offered in the various high schools of the State:

*Agricultural courses of high schools.*

Courses.	Fall.	Winter.	Spring.	Summer projects.
Course I.....	Soil study (field work)—origin, classification, and adaptation.	Soil study (lab. exp.); study of fruit growing; seed selection and gardening.	Pruning and spraying; planting of gardens; planting of bush fruits; cultivation.	Horticultural.
Course II.....	Picking and packing of fruit; methods of propagation.	Grading fertilizers; study of field crops.	Tillage and cultivation; further fertilizer study.	Show results of cultivation and fertilization of soils for field crops.
Course III....	Study and judging of farm animals.	Farm animals (continued); dairying.	Dairying and feeding projects.	Continuation of feeding projects.
Course IV.....	Farm management; cooperation in buying and marketing; farm accounts.	Study of text; rural law.	Rural law; report of projects.	

## REQUIREMENTS OF STATE DEPARTMENT RELATIVE TO DUTIES OF AGRICULTURAL TEACHERS.

The State department of public instruction, in addition to the requirement that teachers shall be qualified, advises but has no power to demand that agricultural teachers shall be in charge of the work during the summer. As a matter of fact, however, 50 per cent of these teachers do inspect and supervise summer project work.

## RELATION OF AGRICULTURAL TEACHERS TO BOYS IN THE GRADES AND THOSE IN THE COMMUNITY NOT IN SCHOOL.

Under a working agreement with the State College of Agriculture the teachers of agriculture and domestic arts supervise all of the educational activities relating to boys and girls in the community. This means that the teacher of agriculture must supervise the work in nature study and elementary agriculture in the seventh and eighth grades.

## PROFESSIONAL IMPROVEMENT OF TEACHERS OF AGRICULTURE.

The State department of public instruction holds two conferences at which superintendents and headmasters and teachers of agriculture meet and discuss details of programs, methods of teaching, etc.

One of these conferences is in August, the other in December. No financial assistance is given to teachers along this line.

In addition to the above, the department holds eight or ten institutes in different sections of the State where groups of teachers of agriculture, domestic arts or mechanic arts, or commerce, meet in round table conferences and where for a day specific problems in administration or the pedagogy of these subjects are taken up. These constitute, according to the deputy State superintendent of public instruction in charge of agriculture, one of the most valuable agencies in shaping the work.

#### METHODS OF SUPERVISION.

The work of inspecting agricultural departments in high schools is provided for by one department official whose title is "Deputy State Superintendent in Charge of Practical Arts Division." Schools are visited from two to six times a year. The method of inspection consists of hearing classroom work, inspecting laboratory and greenhouse work, and visiting a few of the home projects. This latter, however, is practically impossible, owing to the fact that the deputy in charge has over 70 schools of all kinds to inspect.

The records kept at the office of the department of public instruction are practically only the general correspondence and occasional reports along specific lines of project work and the work reports mentioned.

So far as the records kept in school are concerned each school keeps such records as will enable it to fill out the work report, this work report being a very important document which teachers and superintendents understand must be made out in full at the close of the school year. (Sample attached.)

Name of school

.....

#### *Agronomy.*

Number pupils passed?.....Failed?.....Dropped course?.....  
 Texts used and amount covered

In about what proportion has time been divided between recitation or lecture  
 .....and laboratory.....and field?.....  
 Approximate number of mathematical problems worked out.....  
 Number of class.....and individual.....experiments  
 Home projects: How many and what crops have been raised?  
 School projects: What, if any, have been carried out?

(Make report on extra sheets.)



Name of school

.....

*Animal Husbandry.*

Number pupils passed?.....Failed?.....Dropped course?.....

Texts used and amount covered

In about what proportion has time been divided between recitation or lecture  
..... and laboratory..... and herd study?.....

Approximate number of mathematical problems worked out.....

Number of class..... and individual..... experiments

Home projects: Detailed statement of.....

School projects in detail.....

(Make report on extra sheets.)

Name of school

.....

*Horticulture.*

Number pupils passed?.....Failed?.....Dropped course?.....

Texts used and amount covered?

In about what proportion has time been divided between recitation or lecture  
..... and laboratory..... and garden or hothouse?.....

Approximate number of mathematical problems worked out.....

Number of class..... and individual..... experiments

How many and what crops have been raised?

Home projects: Give full statement on additional sheets?

School projects: What, if any?

Briefly describe other agricultural courses, if any.

Teachers are supplied with available material and aided in the matter of method by the deputy in charge at the conferences above indicated and at the time of inspection so far as there is opportunity. It is found possible to discuss such problems as arise at least twice a year and frequently as many as five or six times a year. A great deal of assistance is given by correspondence, but in addition to all this the most important source of all help to the department is through the series of institute circulars which are prepared and sent out by the department.

HOME PROJECTS.

One of the absolute requirements of the department for continued approval of a school is that every pupil taking the course in agriculture shall carry on home projects in the line of horticulture, field crops, and animal husbandry, these projects to be of such a nature as to justify including them under the head of high-school work.

With reference to general requirements relating to projects, Mr. G. H. Whitcher, of the State department of public instruction, says:

All projects must be under the direction and supervision of the teacher. This work can not be confused with the numerous plans designed to meet the needs of adult farmers, because purely vocational aims have no place in the public school, owing to the age of pupils. Nor can it be organized along lines that are perhaps well suited to club activities, because these too often fail to meet educational needs by striving to combine vocational and social motives at an age that lacks experience to utilize the former and feels no need of the latter. Every high-school project must be the direct outgrowth of classroom preparation and presentation, because as pointed out in Circular No. 12, 1914-15, pupils are prepared for field work by the teacher, who must "give a connected statement of the important things to be seen (or done) and the reasons why they are important. This is the blazed trail through the wilderness that the pupil is to follow as he opens up a highway of knowledge."

A project is one step in an educative process, and the high school is by statute responsible to the State department of public instruction for the whole process in agriculture, as well as in Latin, English, geometry, etc.

Agricultural subjects can no more be delegated to outside administration than can translation in Latin, themes in English, mechanical drawing, or any other element of required school work.

The high-school teacher of agriculture working with and through his class must plan and execute all required projects and must personally know that a faithful attempt is made to secure worth-while results.

Pupils who fail to undertake projects must be reported deficient and can not graduate until the deficiency is made up.

*Hopkinton High School.*—In accordance with the New Hampshire State program of study, agricultural projects have been carried on successfully by R. W. Peaslee at the Hopkinton High School. This school is located in a section of the State where general farming is practiced. In addition, the attitude of the community toward the school is one of interest and cooperation, which fact adds in no small way to the efficiency of this system of teaching secondary agriculture. The plan of work falls under several heads:

1. A complete understanding is had by the instructor with the boy and his parents as to just what conditions and requirements are necessary for the boy to enter the agriculture course. Such points as use of land, team, etc., come up here for discussion.

2. The land for the project is selected in the fall by the boy and the instructor, and whenever possible, preparation of the land is started in order to facilitate the work in the spring.

3. All plans for the project are made in the winter as part of the school work, actual preparation of the land beginning in the spring as soon as weather conditions permit. Students are allowed time from school to do this work, provided it does not in any way interfere with other regular studies.

4. All work on the project is done by the student himself, or under his direction, with the direct supervision of the instructor. Such

supervision necessitates visits by the instructor every two weeks or oftener as occasion may demand.

5. The incentive to the student is not given by holding before his eyes a "shiny" prize or the "mighty" dollar, but effort is made to have him carry on the project in a businesslike way, not losing sight of the facts that he is doing school work and that quality of product is paramount.

*Results of garden projects.*

Acres.	Amounts grown.	Cost. <sup>1</sup>	Profit.
Three-sixteenths.....	\$46.00	\$41.65	\$4.35
One-fourth.....	47.78	37.10	10.68
Do.....	37.70	25.70	12.00
One-eighth.....	64.09	21.70	42.39
Three-sixteenths.....	73.10	37.30	35.80
One-eighth.....	69.34	15.00	\$4.34
One-fourth.....	134.48	34.86	* 105.37

<sup>1</sup> "Cost" includes labor income, reckoning man hours at 20 cents, and horse hours at 15 cents per hour.

\* Includes \$2 cash prize.

† Includes \$5.75 cash prizes.

The State department of public instruction requires each high school offering an approved course in agriculture to hold a school exhibit of the products of home project work. An exhibit of this kind was held last year at the Hopkinton High School. All gardens were planned with a view to minimizing hand labor, horse cultivation being used, supplemented with as much handwork as was necessary. Some standard brand of seeds was used by each boy; while cabbage, cauliflower, and tomato plants were obtained from the school hotbeds.

All actual work was done by the students, the garden plan being worked out under the direct supervision of the instructor, and the work through the summer supervised by visits every two weeks and oftener, as was deemed necessary.

In addition to the regular garden project, one boy had a demonstration plat of alfalfa, another a plat of Canadian field peas, both trial plats planted from seed sent by the Government, the results in each case being sent in to the United States Department of Agriculture as per agreement. The alfalfa was inoculated with commercial culture.

As a part of the horticulture course, hotbeds were run near the school by the two upper classes. In these were grown lettuce, radishes, 50 dozen tomato plants, 800 to 1,000 cabbages and cauliflower. The total receipts were \$10. This amount is small, owing to the fact that people are educated to buy a coarse-leaved, late tomato plant. The fine-leaved Earlina plants were sold at a sacrifice, but from the gratifying results obtained from them by all who purchased, a ready market is assured for all plants which can be raised next spring.

At this same school a series of home projects in poultry feeding, accompanied by marketing of products proved of high educational as well as economic value. In addition to this, the fact that two boys from this school went home and commenced complete reorganization of the farm only shows that this kind of school work does function in the improvement of agricultural practice.

### NEW JERSEY.

According to Lewis H. Carris, assistant commissioner of education, any high school may introduce subjects from the field of agriculture as a part of the regular program of high-school studies. Such work is usually divided into specific subjects which bear directly upon agricultural work and are for the most part connected with the science work of the schools. Among the subjects possible are elementary agriculture (a study of some elementary text in agriculture), animal husbandry, agricultural chemistry, agricultural physics, fruit growing, field crops, horticulture, farm accounts, farm management, etc. Attention is called to the fact, however, that when this subject is introduced into a high school, it is necessary to secure a teacher who is both legally and professionally qualified to do this work. In agricultural science, a teacher who has had no agricultural experience usually fails to do satisfactory work.

### STATE AID.

The State gives a quota from \$200 to \$400 to each high-school teacher, depending upon the length of the high-school course; and the work in agriculture, when approved by the State board of education, may be incorporated into any high-school course and the district will be assigned quotas for the work of teachers of agriculture.

### VOCATIONAL SCHOOLS.

Under the provisions of the New Jersey laws for 1913 any present district, any union of two or more present districts, or any county may organize work in vocational agriculture.

A vocational agricultural school is a school, or a department in a school, under a special teacher or teachers where agricultural subjects with agricultural projects form the greater part of the program of studies. These subjects of study should be connected with definite projects which are worked out on the home farm under the supervision of the special teacher or teachers. The State board of education is ready to consider the approval of any definite scheme for providing a vocational training for apprentice farmers in any of the districts mentioned above. A few of the plans suggested are as follows:

1. Vocational agricultural department, which shall employ a teacher for the year around, who shall give definite instruction to a

group of boys during the winter months and supervise their work on the home farm during the summer.

2. A definite winter term for the instruction of boys who can not attend the regular high schools.

3. Definite expert supervision of agricultural projects carried on on the home farms during the summer months, supplemented by occasional meetings of pupils with the teacher.

4. Short unit courses which provide definite instruction in any one of the topics which are of value to a group of farmers in any community. The number of such short unit courses which can be given with profit is very large. For example, courses might be given in the judging of cattle, testing of milk, balanced rations, plant diseases, small fruits, poultry raising, etc. These short unit courses can be given in a series of 5 to 25 lessons, depending upon the character of the subject to be taught.

Particular attention is called to the fact that it is not necessary to have an experimental farm, equipment of building, and tools to carry on an agricultural school or department as indicated above. The laboratory is the home farm, and practical experience in the art of farming is gained by the students in definite projects of some financial importance.

*State aid.*—State aid to the extent of one-half the maintenance and equipment is provided to any district, union of districts, or county which organizes a vocational school or department. It will be observed that there is no minimum amount of State aid contemplated in the law.

Under the provisions for the establishment of vocational schools, New Jersey is carrying on probably the most unique experiment in the way of a vocational school system for a county that may be found in the United States. The vocational school system of Atlantic County consists of a board of education of five men and a staff of five men and two women, as follows: R. D. Maltby, director, four agricultural teachers, one of whom is also the chemist, a domestic-science teacher, and a clerk. The staff is engaged by the year, for the entire year. Each agricultural teacher is in charge of an agricultural school or center. Each school is fitted out with adequate furniture, books, and apparatus for conducting class work. The domestic-science department is fitted out with equipment for two unit kitchens. This outfit is transported to sections where the work is given.

The vocational schools also have a fully equipped chemical laboratory for analyses of soils, feed, fertilizer, etc. Agricultural schools are located at Pleasantville, Cologne, Hammonton, and Minotola; the chemical laboratory is at Pleasantville.

## CLASSIFICATION OF EDUCATIONAL WORK.

*Full time.*—Men and boys above the age of 15 years taking three hours per day, five days per week, during the winter.

*Full-time course.*

Courses.	First year.		Second year.		Third year.	
	Hours.	Nature.	Hours.	Nature.	Hours.	Nature.
Project.....	7	Elementary.....	5	.....	5	.....
General science.....	5	Soils.....	5	Crops.....	5	Live stock.
Home improvement.	1	Care of home grounds, etc.	1	Sanitation.....		
Shop.....	1	Use of tools.....	1	Farm mechanics.....		
Current topics.....	1-2	.....	1	.....		
Civics.....		.....		.....	1	Rural law.
Grammar.....		.....		.....	1	General principles.
Farm arithmetic.....		.....		.....	1	Percentage and accounts.
Agricultural engineering.		.....		.....	1	Farm surveying.
Care of animals.....		.....		.....	1	Prevention of disease.

*Part time.*—Men taking less than the above and confining most of their time to project study; class work done largely at night.

*School pupils.*—Pupils enrolled in public schools, above the seventh grade and over 15 years of age, taking not less than three hours per week. Studies consist wholly of elementary project study. Work taken in lieu of like number of hours of school work.

*Lecture course.*—Consists of groups of men and women in various sections of the county, meeting once or oftener a week during the winter for the purpose of discussing the agricultural problems of the community. Only those who desire take outside project.

*Night classes.*—Composed of men who meet once or oftener per week. Work consists of project study and problems of community interest, as control of diseases, fertilizing, etc.

*Short course.*—Two, four, or six weeks in length. Given for those who desire detailed information on certain subjects and are unable to attend a full-time course.

## PROJECT WORK.

Project work consists of carrying out a systematic piece of work in the growing of a crop or some other farm activity that has previously been studied about in school, or expressed in other words, a practical demonstration of information gained in school. Project work is inspected weekly, or as often as necessary, throughout the growing season, by the teacher. Upon the results of the project the increased earning power of student is completed, though it does not represent all of the increased knowledge of the student

## VOCATIONAL SCHOOL BULLETIN.

Beginning with the month of May, 1916, the vocational schools began the publication of the Atlantic County Vocational School Bulletin. The purpose of the bulletin is to furnish to the citizens of Atlantic County first-hand information of the activities of the vocational schools. The bulletin also includes seasonable notes on farm work, notices of agricultural meetings, and discussion of agricultural problems. The bulletin is sent free to all patrons of the vocational schools, to whom is extended the free use of its columns for the discussion of agricultural problems of community interest.

## SOILS LABORATORY.

The soil laboratory is a result of the need and consequent demand of the farmers of the county for a place where questions regarding soils, fertilizers, spraying materials, seeds, etc., could be answered positively as to actual composition. Such answers can not always be given by simple examination by eye, nose, or tongue, nor by taking the word of the seller. More often the answer calls for apparatus and materials which give results which are measureable—weighable—and then these results are calculated in dollars and cents. Time is also an important factor in the money value of an answer, and the laboratory is, therefore, located within easy personal reach of all the farmers of the county. Farmers are always welcomed in the laboratory and the object lesson they receive by coming in actual contact with the scientific methods applied for their benefit results in gaining their confidence, not only in the vocational school, but also in the State College of Agriculture and the United States Department of Agriculture.

The equipment of the laboratory is limited to apparatus and chemicals required for determinations of a practical character and consists of the necessary chemicals and apparatus for chemical analyses, apparatus for physical analyses of soils, fertilizer and spraying materials, a compound microscope, seed-testing outfit, and a milk tester.

## DEMONSTRATION WORK.

Demonstration work is understood by the vocational school staff to mean definite instruction on some farm problem at the farm and the carrying out of such instruction by the farmer. Demonstration work is always the result of a previous call either by phone, letter, or in person, for such instruction. Unless said instruction is followed out, the same is not regarded as a demonstration. Furthermore, practically all of the demonstration work performed by the vocational school staff is done while on the project visiting routes; and practically 90 per cent of all demonstration work is held with farmers who

have had some direct connection with the vocational schools, either as full time, part time, lecture course, or short course students. General demonstrations are held, where there are two or more persons present, on some fixed line of agricultural activity. General demonstrations are announced in advance and are held for the general instruction of the neighborhood

#### CLUB WORK.

During the summer of 1915 the vocational school staff assisted the county superintendent of schools in the supervision of the boys' and girls' agricultural and home making clubs. In 1916 the vocational school staff practically took over the entire supervision of this work. This year the scope of the work has been broadened until the club work now includes corn, potato, sweet potato, and girls' tomato growing and canning clubs. Improved seed corn was secured and furnished to the boys at cost; so the boys are the foundation of improving the standard of corn in the county. Buttons signifying that the boys and girls were members of the club movement were given all contestants. Frequent meetings of the contestants are held in the various school districts to keep up the interest and to instruct the boys in their work. The domestic science teacher held frequent demonstrations in canning of fruits and vegetables for the girls who are members of the girls' clubs. Mothers are also invited, so that the work has a broader influence. The enrollment in the various clubs of the county is as follows: Yellow Dent corn, 118; White Dent corn, 26; acre corn contest, 13; pop corn, 31; white potatoes, 49; sweet potatoes, 42; tomato growing and canning, 177; total, 456.

#### COOPERATIVE AGRICULTURAL CLUB WORK.

Until recently all the attention of agricultural experts has been directed toward the production of larger and better crops, without giving due consideration to the question of buying and selling or in any way endeavoring to help the farmer dispose of his produce systematically and economically. The vocational staff, however, has felt this need to balance production and has been able to inaugurate both buying and selling organizations among groups or clubs composed of farmers.

Where organizations were formed, prior to the advent of the vocational schools, every effort has been put forth to cooperate with them, but where none existed, efforts have been directed toward organizing such an association, conforming to the needs of the community. There is now established one or more such associations in each of the vocational school districts.



## VOCATIONAL SCHOOL LABEL.

Never in the history of agricultural extension work has a public organization issued any method or means of guaranteeing the farmers' products. This action evolved from the belief that education in grading, packing, and marketing was incomplete without the money measure of that education.

The vocational schools, therefore, designed a label which is given free of charge to the students for their use, providing they implicitly follow rules prescribed. The label states that the goods are "Graded and packed under direction of Atlantic County Vocational Schools." Space is provided for the marks of the grades and types of products. Furthermore, each user has a serial number which the schools place upon the label. This serial number is for the use of buyer or consumer who has objection to the quality of produce in package, and by stating that number in correspondence with this system of schools the matter is investigated, and if the farmer fails to conform with the rules of grading and packing, adjustment is made and the farmer forfeits the privilege to further use of the label.

That it is a guarantee and efficient in its purpose is exemplified by the fact that an additional \$1 per crate has been continuously received for strawberries, and other produce has brought proportionate additional returns.

## IMPROVEMENT OF RURAL SCHOOL GROUNDS.

In cooperation with the local school boards the members of the staff have assisted in helping to improve the appearance of several schools and their surroundings. The most decided work was performed at Bargaintown and Minotola, where plans for the improvement of the grounds were first drawn and then the work done according to the specifications. This work has only commenced, as several requests have since been made for assistance, which indicates the interest that has been aroused in this activity. The time is rapidly approaching when public-spirited men and women will realize the importance of keeping the school grounds neat and attractive. Already the lessons learned in this work at school are being applied at home.

## LIBRARIES.

The library in the vocational schools is equipped with 433 books covering problems on fruit and vegetable growing, insect pests and diseases, fertilizers, general farm crops, farm management, poultry husbandry, general animal husbandry, and general farm life, together with a full list of available bulletins and reports from the *New Jersey Experiment Station* and the *United States Department of Agriculture at Washington*, also many bulletins from State experi-

ment stations throughout the United States. All the books, bulletins, circulars, pamphlets, and news letters belonging to the vocational schools and pertaining directly to the science and art of agriculture are at the disposal of all patrons of the vocational schools. Few of the above books are used as textbooks, though most of them are used strictly as references in working out project outlines. The vocational schools are also equipped with a full set of project outlines compiled and written by the vocational school staff. The library in each school is open special evenings for the use of those who wish to come in and read, as well as to get books for home reading. A few agricultural periodicals are kept at the various centers. Weekly news letters from the State experiment station and Federal Government are posted where they are accessible at all times. The use of agricultural reading matter, especially agricultural literature, has been stimulated in the farm home. Nearly 50 per cent of the books owned by the vocational schools are in circulation throughout the year. Many bulletins have been ordered and books purchased through the instrumentality of the vocational school staff.

#### AGRICULTURAL MEETINGS.

The vocational school staff has exerted its influence in the development of social and economic betterment of farm life. The members of the staff are members and officers and are frequently in attendance at the meetings of all agricultural associations of the county. They have also been instrumental in assisting in the organization of poultry associations, subordinate granges, and Pomona Grange and agricultural clubs. This activity is no small part of the work of the vocational school staff, as there is many a week in which the instructor attends four or five meetings. The attendance in agricultural meetings is practically always accompanied by a talk and a round-table discussion.

#### FARMERS' WEEKS.

Farmers' week consisted of a series of five evening meetings, each meeting being devoted to a distinct branch of agricultural work, as fruit growing. One night of each series was always devoted to the ladies with special attention given to general rural improvement. Two and three lectures were given each night, after which a general round-table discussion followed. The meetings were presided over by prominent farmers of the community, who always lead the discussions. In Hammonton and Cologne a committee of the farmers has been appointed to assist in the perpetuation of the movement.

Five series of farmers' weeks have been held since the inauguration of the vocational schools; two at Minotola, two at Hammonton, and one at Cologne.

NEW YORK.<sup>1</sup>

## SCHOOLS OF AGRICULTURE, MECHANIC ARTS, AND HOME MAKING.

*State aid.*—For many years the New York State Education Department has recognized agriculture as a proper subject for school study, and 10 years have passed since the first outline of a course in agriculture was included in the courses of study for secondary schools. Not until 1910, however, was there any provision made for instruction of a vocational nature. At this time the legislature enacted a law authorizing the commissioner of education to apportion public money for the partial support of schools of agriculture, mechanic arts, and home making. In 1913 this law was amended to its present form. The following indicates the main provisions of the present law and amendments.

1. Such schools may be established in union free school districts or in common-school districts when authorized by a district meeting.

Practically all village schools are in union free school districts, while nearly all the small country schools are in common-school districts. This permits any public school in the State to undertake the work, even though it does not maintain a high-school department. It should be noted, however, that the school may be authorized only by a vote of the district.

2. Such schools are to be under the direction of the authorities that have charge of other public schools of the district.

This is to insure the incorporation of the vocational work as an integral part of the established school system.

3. The commissioner of education shall annually apportion a sum equal to two-thirds the salary of the first teacher and one-third the salary of each additional teacher, also \$200 additional if such teacher is employed for the full year (includes summer vacation), provided—

- (a) No change of teacher is made.
- (b) Such school may be a department or course of instruction established and maintained in a public school.
- (c) Such school has an enrollment of at least 15 pupils.
- (d) Such school maintains an organization and a course of study and is conducted in a manner approved by him.

The most important factor in successful school work is the teacher. The apportionment of a fractional part of the teacher's salary instead of a lump sum tends both to secure better salaried teachers and to warrant a yearly increase sufficient to retain competent teachers. The provision for summer employment makes possible an effective teaching plan.

4. All money so apportioned is to be used exclusively for the payment of the salaries of the teacher.

<sup>1</sup> The author is under obligation to Mr. L. S. Hawkins, of the State department of education, for valuable assistance and material found in this report of New York schools.

## METHODS OF ADMINISTRATION.

The administrative and educational work of the State education department is performed by the commissioner of education, 3 assistant commissioners of education (1 of whom is deputy commissioner), and 14 divisions or bureaus.

The division of agricultural and industrial education has charge of State-aided vocational instruction and general supervision of courses of study and projects of a vocational nature.

## QUALIFICATIONS OF TEACHERS.

No teacher may legally be engaged for vocational work who has not a special certificate, which requires, generally, evidence of graduation from an approved high school or the equivalent, and also from an approved professional institution wherein the candidate completed a four-year course of study in the subjects to be taught. Since the State pays two-thirds of the salary of the first teacher and one-third of the salary of each additional teacher of vocational subjects it is incumbent upon the division of agricultural and industrial education to insist that only the best available teachers be engaged. Boards of education are, therefore, advised to consult with this division before contracting with their vocational teachers.

The following points are brought to the attention of boards of education as to what is to be kept in mind in selecting a teacher of agriculture:

1. A teacher of agriculture should be thoroughly conversant with farm life, either through his home life or extended experience working on a farm.

2. A teacher of agriculture in a secondary school should not be a specialist in one or two agricultural subjects, but should have a good general knowledge of the entire field, including soils, animal husbandry, dairy husbandry, poultry husbandry, farm crops, fruit growing, plant diseases, farm machinery, etc.

3. A teacher of agriculture should have some knowledge of the science and art of teaching, gained either through special study or from teaching experience. A thorough knowledge of agriculture may be of little use unless the teacher has also some knowledge of how to direct the activities of pupils.

4. A teacher of agriculture should understand the intent of vocational agriculture, should be familiar with the farm home, and should understand the problem of connecting the school work and the home activities of the pupils.

5. A teacher of agriculture should have some knowledge of mechanical drawing, woodworking, and elementary blacksmithing.

## TYPES OF SCHOOLS.

Two general types of agricultural schools in New York are recognized by the education department, namely:

1. *Intermediate schools of agriculture, mechanic arts, and home making.*—These are small schools of distinctly rural type offering four years of vocational work based upon six years of elementary school work. This type of school is not maintained in connection with any other secondary school course or department. These

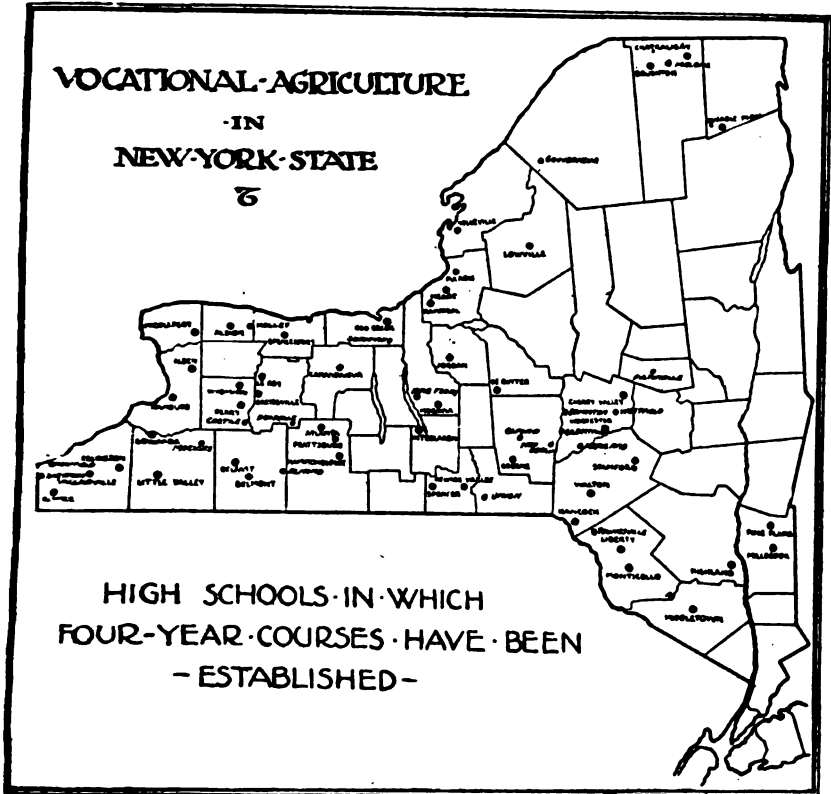


FIG. 1.

schools are planned for districts which do not at present maintain an academic department. Districts now maintaining an academic department of junior or middle grade may reorganize and establish an intermediate school. The course is so organized that pupils who are graduated from the intermediate school may complete an approved high-school course by two years of additional work.

In addition to the elementary teaching staff, there are three vocational teachers: (1) A principal qualified to teach agriculture, (2) a woman qualified to teach home-making subjects, (3) a teacher

qualified to teach English, history, etc. Each of these teachers holds a special vocational certificate for the particular work in which he or she is engaged.

CURRICULUM OF AN INTERMEDIATE SCHOOL OF AGRICULTURE.

	Hours a week.		Hours a week.
<b>FIRST YEAR.<sup>1</sup></b>		<b>THIRD YEAR.</b>	
English.....	5	English.....	3
Arithmetic.....	5	Mathematics.....	5
Geography.....	5	Biology.....	5
Agriculture or home making.....	10	Agriculture or home making.....	10
<b>SECOND YEAR.</b>		<b>FOURTH YEAR.</b>	
English.....	5	English.....	3
Mathematics.....	5	History.....	3
History.....	5	Mathematics.....	5
Agriculture or home making.....	10	Agriculture or home making.....	10

2. *High schools of agriculture, mechanic arts, and home making.*—These are vocational departments of high schools located in villages and rural communities. Pupils in these departments recite English, history, etc., in common with pupils in other departments of the school. It is, therefore, assumed that the principal of the school is also principal of the school of agriculture, mechanic arts, and home making. Official communication comes from and is directed to him.

CURRICULUM OF A HIGH SCHOOL OF AGRICULTURE.

	Hours a week.		Hours a week.
<b>FIRST YEAR.</b>		<b>THIRD YEAR.</b>	
English.....	4	English.....	3
Algebra.....	5	Physics or chemistry.....	5
Biology.....	5	Third-year agriculture or third-year home making.....	10
First-year agriculture or first-year home making.....	10	<b>FOURTH YEAR.</b>	
<b>SECOND YEAR.</b>		English.....	3
English.....	3	American history with civics.....	5
Plane geometry.....	5	Fourth-year agriculture or fourth-year home making.....	10
History.....	3		
Second-year agriculture or second-year home making.....	10		

In New York State the number of public high schools teaching agriculture, mechanic arts, and home making increased 300 per cent in five years, as follows: 16 in 1911-12; 25 in 1912-13; 34 in 1913-14; 47 in 1914-15; 64 in 1915-16.

CURRICULUMS AND COURSES OF STUDY.

The classroom and laboratory instruction is based upon the practical experience gained on the farm, at home, or elsewhere. It is,

<sup>1</sup>Seventh school year.

therefore, impossible to prescribe uniform courses of study or to prepare adequate outlines for particular subjects. This does not mean that the courses of study of a school are changed to suit the whims of pupils who do not know exactly what they want or need. Definite courses of study are formulated at the beginning and are followed until there is urgent need for a change. A well-balanced general knowledge of the entire field of agricultural science and practice is represented in each curriculum.

The foregoing curriculums are not prescribed, but any school desiring to make any change secures the approval of the division of agricultural and industrial education before doing so. Other subjects, after approval, are substituted for those indicated above. The arrangement of subjects and the content of those subjects are suited to the community in which the school is located.

#### ROOMS AND EQUIPMENT.

Since agriculture deals with concrete material and is to a great extent objective, much of the time occupied in this study is spent in the field and laboratory, connecting in as many ways as possible everyday objects and occurrences with the general principles of science. For this purpose the barns, machinery, herds, flocks, fields, and crops of neighboring farmers are usually accessible and available. This means that the cost of material equipment at the school is low. Five hundred dollars is the amount advised to be included for equipment in the budget of a school starting the work. It is required that the rooms and equipment provided for this department shall be as modern and convenient as for any other part of the school. Rooms are not used for this work unless they are well heated, lighted, ventilated, and perfectly sanitary.

#### THE LABORATORY.

The purpose of the laboratory and its equipment is supplementary to that of the field. It furnishes a means for demonstrating various phases of agriculture and affords an opportunity for securing individual experience. One large room properly equipped to serve as a combination recitation room and laboratory has been found most satisfactory. It frequently happens that an exercise may be part recitation and part laboratory. Material and apparatus commonly used in the laboratory are also usually necessary for classroom demonstration. Centering all work and materials in one room saves time and trouble. A chair with a drop arm makes the best seat for such a room. When the arm is lowered, the chair may be used at the side table. For any demonstration exercise, such as butter or cheese making, the center of the room may be cleared and plenty

of space provided for the work. When any great amount of dairy work is indicated in the course of study, a special cement-floor room is provided and properly equipped with the necessary appliances

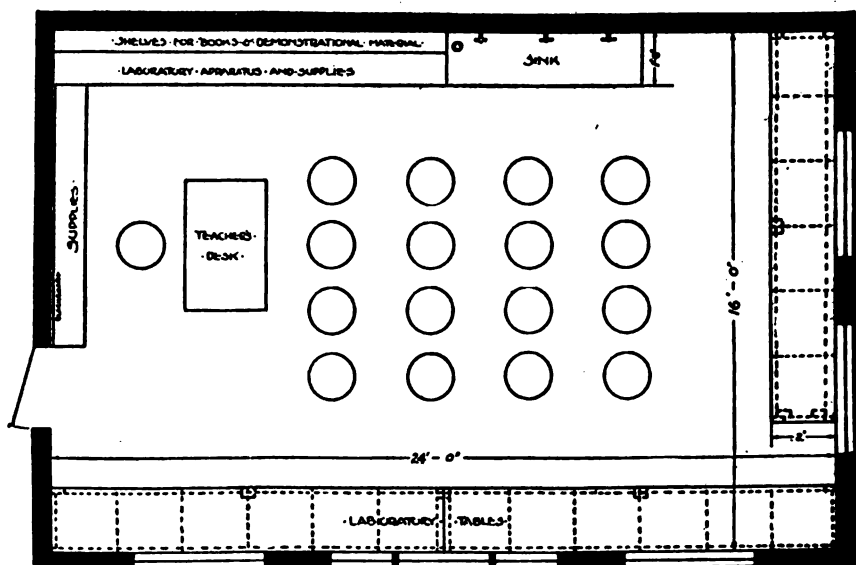


FIG. 2.—Plan of combination laboratory and recitation room for agriculture recommended by the New York State Educational Department.

of a home dairy. These rooms have running water, and gas when possible. When gas is inaccessible, alcohol, or other burners, are

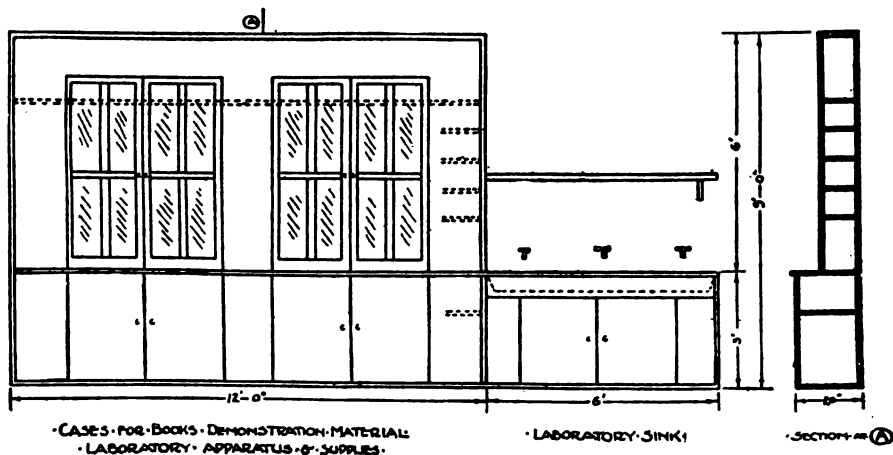


FIG. 3.—Elevations of cases for books, demonstration material, apparatus, and supplies shown in the plan.

provided. The agriculture room is near the ground, with easy access to the outside of the building, so that classes may readily pass in and out without disturbing others in the building.



Ample case room is provided for apparatus, laboratory supplies, and demonstration material. The upper doors are of glass, so that material may be readily located. The lower doors are of wood, since glass so low down is frequently broken.

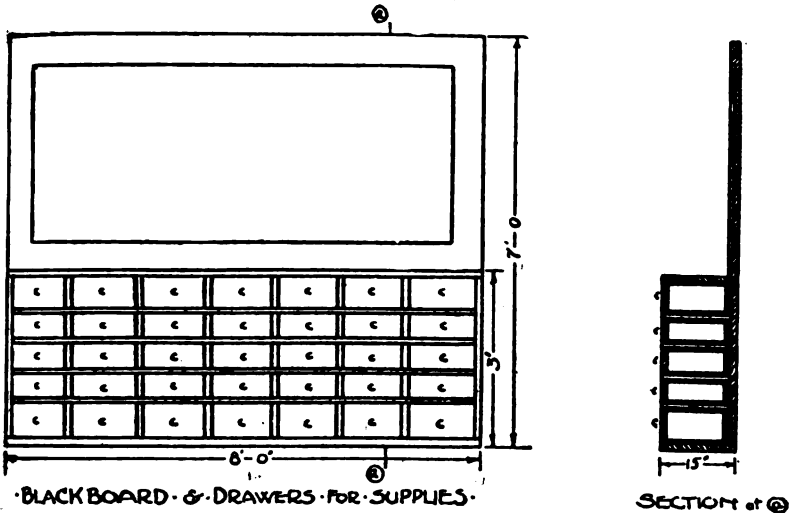


FIG. 1.—Elevation of blackboard and drawers for supplies. Racks for drawing boards could be substituted for two rows of drawers. The blackboard should be of slate.

The laboratory contains plenty of drawer space. Cases are mouse proof, so that grains and other edible material may be safely stored.

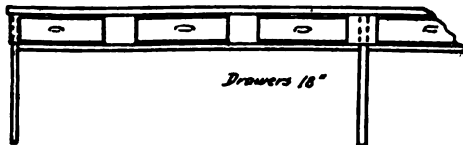
The side tables are at least 2 feet wide and 30 inches high. There is a drawer for each 2 feet of length. The tops are smooth matched and finished in such a way that they may be protected from damage and kept clean and smooth.



#### EQUIPMENT.

Agriculture requires a definite, special equipment; and adequate provision for agriculture teaching requires an expenditure greater than for any of the other sciences. Outdoor as well as indoor work must be considered.

Some of the materials and apparatus used in the physical, chemical, or biological laboratories may also be used by the teacher of agriculture, but in no case is such equipment alone sufficient. A list of the kinds and amount of materials needed is made out at least once a year by the teacher of agriculture.



#### LABORATORY TABLES.

FIG. 3.—Elevation of laboratory tables. To insure good lighting, curtains should roll from the bottom of the windows rather than from the top.

Some of the materials and apparatus used in the physical, chemical, or biological laboratories may also be used by the teacher of agriculture, but in no case is such equipment alone sufficient. A list of the kinds and amount of materials needed is made out at least once a year by the teacher of agriculture.

The board of education sees that funds for such material are provided without delay. Laboratory supplies for the year are, so far as possible, secured before the opening of the school in the fall. In compiling a list of the equipment and material needed, the teacher goes over his outlines of work for the coming year and carefully notes his probable needs. Local material is collected by the teacher and pupils, and some of the apparatus is constructed in the school.

The following is a suggested list which represents the average equipment in the New York schools. Many of the articles listed are made in the shop, some are collected locally, and others donated by commercial firms.

#### FIRST-YEAR AGRICULTURE—POULTRY HUSBANDRY.

Incubator (50-450 egg), 1.	Score cards.	Poultry-carrying crates.
Killing knives (Krum), 3.	Poultry feeds, 1 set.	Parcel-post carriers.
Chart material (sign painter's cloth), 20 yards.	Egg tester.	Egg preservatives.
Stamping outfit, 1 set.	Exhibition coops.	Disinfectants.
	Picking box, 1.	

#### SECOND-YEAR AGRICULTURE—FARM CROPS, SOILS, AND FERTILIZERS.

Vials, 4 dozen.	Scales, 1 pair.	Fruit jars.
Hand lenses, 10.	Paraffin (cakes), 2.	Soil boxes (1 by 1 by 1 foot), 3.
Tape measures, 10.	Choesecloth, 5 yards.	Capillary support racks, 2.
Dry measures, 1 set.	Sieves (20, 40, and 60 mesh), 3.	Support racks, 6.
Passe partout tape, 5 pieces	Grains:	Soil bins.
Spades, 2.	Threshed.	Chemicals (in small quantities):
Soil sugar, 1.	Sheaf.	Sodium carbonate.
One-quart bottles, 10.	Grasses and legumes:	Calcium sulphate.
One-quart fruit jars, 2 dozen.	Plants.	Potassium permanganate.
One-pint fruit jars, 1 dozen.	Seeds.	Ammonium hydrate.
Soil cans, 1 dozen.	Plant disease specimens.	Sulphuric acid.
Flower pots (6-inch), 2 dozen.	Insects (preserved or mounted).	Calcium oxide.
Celluloid sheet (24 by 36 inches), 1.	Spraying materials.	Muriate of potash.
Ignition crucibles, 2.	Trooting materials.	Litmus paper.
Small shallow pans, 24.	Balances.	Ammonium hydrate.
Gas chimneys, 3 dozen.	Flower pots.	Calcium carbonate.
Glass tumblers, 3 dozen	Germinating trays, 10.	Hydrochloric acid.
Funnels (3-inch), 6.	Glass plates (convenient size).	Sodium chloride.
Soil sieve (coarse), 1.	Corn rack, 1.	

#### THIRD-YEAR AGRICULTURE—FRUIT GROWING, ANIMAL HUSBANDRY, AND DAIRYING.

Babcock milk tester (12-bottle), 1.	Score cards (selected), 200.	Grafting chisel, 1.
Babcock milk tester (4-bottle, open), 1.	Sediment tube and bushing, 1.	Pruning saws, 4.
Milk test bottles, 18.	Dairy thermometer, 1.	Pruning shears, 1.
Cream test bottles (9-gram), 6.	Burette holders, 2.	Raffia, 1 pound.
Skim milk test bottles, 6.	Milk test bottle holders, 10.	Beeswax, tallow, resin.
Acid measures (17.6 c. c.), 12.	Measuring standard, 1.	Agate basins, with handle (3-quart), 12.
Test bottle brushes, 12.	Samples of animal feeds.	Pails (12-quart), 2.
Hydrometer jars (12 by 2 inches), 2.	Chemicals (small quantities):	Twine, 2 balls.
Lactometer (Quevonne), 1.	Iron chloride.	Measuring tape (50 feet), 1.
Lactometer (B. of H.), 1.	Starch—potassium iodide.	Vials, 4 dozen.
Graduate (8-ounces), 1.	Hydrogen peroxide.	Insect and pathology mounts.
Pipettes, 12.	Farrington's alkali tablets.	Spray nozzles.
Glass and rubber tubing.	Bichloride tablets.	Chemicals:
Cream scales, 1.	Silver nitrate, C. P.	Copper sulphate, 10 pounds.
Composite sample jars (screw top) 1 dozen.	Potassium chromate.	Flowers of sulphur, 10 pounds.
Burettes (50 c. c.), 2.	Sulphuric acid (18 pounds).	Lump lime, 10 pounds.
	Hydrometer, 1.	Arsenate of lead, 5 pounds.
	Spray pump, 1.	Insecticides, fungicides.
	Budding knives, 4.	

#### FOURTH-YEAR AGRICULTURE—FARM MANAGEMENT AND FARM MACHINERY

Farm level and outfit, 1.	Farm score cards.	Farm machines.
Cement tools, 1 set.	Plane tables, 3.	

## REQUIREMENTS FOR STATE AID.

1. That the time of teachers shall be devoted exclusively to vocational work. This precludes the supervision of a general study hall and the teaching of other than vocational pupils.

2. That the school shall have at least 15 enrolled pupils. Pupils registered in the school and carrying on a project in conformity with the rules and regulations governing project work may be counted in the required 15.

3. That such school shall maintain an organization and course of study and shall be conducted in a manner approved by the commissioner of education through the division of agriculture and industrial education.

4. That the teacher of agriculture shall be employed for service during the summer months. It is necessary for the board of education or trustees to determine the educational services to be rendered by this teacher during the time the school is not open (the summer vacation). This plan is submitted to the division of agricultural and industrial education. If the plan is approved and the work is satisfactorily done, additional apportionment is made. The following suggestions are made to boards of education in planning this work:

(a) The year should begin in September rather than in June or July.

(b) Plans for the summer work of the teacher and the detailed plans of the pupils' home project work must be submitted to the division of agricultural and industrial education before April 1.

(c) Arrangements are made concerning transportation for the teacher during the spring, summer, and fall. It is definitely understood whether he or the board is to provide means of transportation.

(d) The following are some phases of summer work suggested for the teacher of agriculture: (1) Supervision of home project work carried on by boys who are enrolled in the school, (2) supervision of experiments or projects undertaken by boys or young men not in school but who may be interested (some of these boys may decide to enter school later), (3) collecting material for classroom and laboratory use the following year, (4) locating objective points and making arrangements for field trips to be taken the following year, (5) assisting local farmers to solve some of their troublesome problems when these farmers request such aid.

Duplicate plans for home project work are made, one to be kept on file in the school records and extended as the work progresses, the other to be sent to the division of agricultural and industrial education. Blanks for recording this work are furnished by the division.

## USE OF LAND.

The school may use a small plat of ground to advantage, but it is not necessary for it to have a farm. The teacher and pupils mal-

use of the near-by farms and their equipment for much of the laboratory instruction. Pupils make use of their home farms in the required project work.

#### ARRANGEMENT FOR PROJECT WORK.

When the school is closed and formal instruction ceases, it is expected that the teacher will devote his time to making effective this home instruction. By this means not only do the boys have an opportunity to make their home work effective, but also that the teacher may get a thorough knowledge of the business conditions of the community and make it reflect itself in the instruction in school during the following years.

Furthermore, before a pupil is registered in agriculture, there is a definite understanding with the parents concerning opportunity to do project work. Some days during the planting season it means absence from other classes to get the project properly under way. Formal class work in agriculture subjects is gradually replaced by individual work on the projects.

The explanation on the following pages will make clear the relation of the project to the class instruction.

#### RELATION OF THE PROJECT TO THE CLASS INSTRUCTION.

1. *Vocational subjects.*—A department of agriculture is established in a high school with the assumption that nearly all pupils enrolling in the agricultural course have had some farm experience. It is further assumed that each pupil has definitely decided upon farming as his vocation. These facts are considered in determining the method of instruction. Previous and current farm experience supplemented by laboratory (including field) experience is the basis of the vocational work. During all the first and part of the second term of each year the time allotted in the schedule to vocational subjects is used to give the pupils a good general knowledge of the particular subjects studied. This instruction includes the best-known practices and the science underlying them. Regular textbook assignments or readings form a part of this work, but are always related to the laboratory, field, or farm experiences of the pupils. This general study of the subject is continued until about March 1, when the amount of time given to it varies inversely with the amount given to project work.

2. *Project work.*—At the beginning of each school year the teacher of agriculture calls the attention of pupils in his classes to the fact that before March 1 each one is expected to have selected some project or problem along the line of one of the vocational subjects which he is to study that year. (Usually a pupil's first or second year project does not begin until April or May, but third and fourth year

projects begin in the fall.) After March 1 a part or all of the time set aside for laboratory and possibly some of the recitation time is devoted to projects. Part of the time is spent in school reading references, drawing plans, constructing appliances, testing soil, or whatever else may be necessary in connection with a particular project. Some of the time is used at home properly to start and carry on the project. This work is essentially individual, and therefore requires much time and patience on the part of both parent and teacher.

In extreme cases when the pupil is unable to carry on a project at home, because of distance or lack of room, arrangements are made by the school authorities, or others interested, for him to carry on the work elsewhere.

City or village pupils may substitute a certain amount of supervised farm work of a general nature for a first project.

3. *Nontechnical studies.*—Vocational pupils have not more than seven-twelfths of their work along nontechnical lines; that is, history, English, mathematics, and science. Vocational teachers in departments of agriculture in high schools do not teach agricultural biology, agricultural chemistry, and agricultural physics as separate subjects, but include the elements of such instruction as a part of the agricultural subjects in which any particular element naturally appears. Thus a pupil's first instruction in chemistry may be in a class in soils and fertilizers. Biology, physics, and chemistry are then classed as nontechnical studies; and vocational pupils, together with pupils from other departments, study these subjects in classes taught by nonvocational teachers.

4. *Professional improvement for the instructor.*—When the teacher of agriculture is employed for the summer work, he is retained for the spring vacation, in case it occurs at the time when projects may be started. When the teacher is so retained, there is little time left for him in which to keep in touch with higher institutions. It is recommended by the State department of education that the teacher of agriculture be given a vacation extending from the beginning of the Christmas recess to the beginning of the second term of school, or the close of the January regents examinations. A part of this time is usually spent by him in study. The vocational pupils during this period devote their time to the nontechnical subjects.

#### SUMMER MEETING AT STATE COLLEGE OF AGRICULTURE.

Each summer the teachers of vocational agriculture are called together for a week at the State College of Agriculture for the purpose of considering matters of professional interest. The members of the staff of the college have been most helpful at these conferences, explaining to the teachers what the various departments of the college

are emphasizing, giving assistance in the solution of individual problems and assisting as members of working committees. The college also furnishes each year a prominent speaker from outside the State. The meetings are given over to a consideration of the problems which are of vital interest to all the teachers. This conference really passes upon all new plans before they are put into operation in the State. Two of the most important problems considered are (1) the sifting out of a body of subject matter suited to the high school, and (2) the development of a method of teaching suited to the high school.

#### MONTHLY REPORT SHEET.

Each teacher submits a monthly report which indicates the work done daily. These reports are carefully analyzed and the composite presented at the summer meeting of the teachers. This is an attempt to work out by actual practice the following problems:

1. A reasonable and workable seasonal sequence of subject matter.
2. The relative amount of time to be given to the various topics.
3. The relative amount of time to be spent in recitation, laboratory, field, and demonstration activities.
4. The best available references and laboratory directions.

These reports also furnish a valuable addition to the information gained by inspection of the schools.

#### SUMMER WORK OF TEACHERS OF AGRICULTURE.<sup>1</sup>

These statements are submitted in duplicate. When approved one copy is kept on file in the division of agricultural and industrial education and the other returned for the school files. This report is due each year on April 1. Unsatisfactory projects are adjusted by mail or extra visits to the school. The purpose of this report is to insure a satisfactory project for each pupil.

The project accounts are kept on file in the school and are subject to call from the State department of education. Inspection of a school includes a scrutiny of these records. The blanks are furnished by the State department.

The summary of accounts of the projects in a school is submitted to the State department of education in duplicate. When approved, one copy is retained for the files of the central office and the other returned for the school files. This report is due each year on June 1 following the summer in which the project was carried on. This allows time for carrying projects a full year, even though started as late as March 1.

Since regents' credit is given for this work, including projects, all claims for credit are checked up with the project reports before credit is given.

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<sup>1</sup> Preliminary statement of home projects.

## INSPECTION OF SCHOOLS.

The division of agricultural and industrial education of the State department is charged with the general supervision of vocational instruction and with the duty of gathering and making known all obtainable helpful information upon the subject. To a specialist in agricultural education and one assistant is assigned the agricultural part of this work. Each vocational department is visited at least twice each year, once when the school is in session and once when the project work is under way. Some of the schools are visited four or five times during the year. The purpose of these visits is twofold: (1) To assist in improving the work of the department; (2) to inspect the school and "check up." The following cards and the explanations accompanying them indicate the nature of the inspections and records of the same.

*The visitation card* is used for the field record. A single card is sufficient for several visits, since not all lines of work may be seen on each occasion. In any case the visitation cards need to be with the field worker in order that he may follow up the suggestions made on previous visits. These cards are kept on file at the State office so that the field worker may select the cards needed when starting out on a trip.

*The school record card* is kept in the office files as a permanent record and as a cumulative summary of the information found on the visitation cards. Each of these cards is intended to give a bird's-eye view of the conditions existing in a school.

Under the heading "Subject" is merely indicated the year or years of agriculture being taught, since the subjects are all included under first, second, third, and fourth year agriculture. The "enrollment" in each subject is merely indicated numerically.

*The school records* which should be on file in the school are the Roll Book, the Class Book, containing a record of the daily work and examinations, the Daily Plan, which is a duplicate copy of the monthly reports sent in to the department, and an Inventory of all books and apparatus.

*The department records* consist of a duplicate copy of the preliminary statement of projects, a duplicate copy of the final statement of projects, the regent's credit records, which are duplicate copies of the claims for credit sent in to the State department, the cards of study assigned to the individual pupils who are enrolled in agriculture, and a diary account of the summer activities of the teacher of agriculture.

*The projects plans* consist of the outline of plan for each individual project and each class project. The class project is more in the nature of an extended series of laboratory exercises.

*The projects account* consists of a report and cash record and the summary and financial statement of each individual project.

*The projects summaries* are the "write-ups" by pupils and consist of such information as is not contained in the plan of procedure of the financial records. Mistakes and successes are here recorded, conditions beyond the control of the people, such as weather, floods, etc., the conclusions and information gained. The indication on the visitation record is merely whether or not various records are complete and approved.

*Books.*—The following points are taken in consideration in approving the books: Number, selection, where kept, how catalogued or arranged, how used and how much used.

*Equipment.*—Amount, selection, arrangement and care.

*Bulletins.*—Number, selection, where kept, how catalogued, how used, and how much used.

*Texts.*—Title and author, and in case of an unusual or new book also the publisher.

#### SCORE CARD.

<i>Preparation.</i>	<i>Method.</i>	<i>Results.</i>
<p><i>Recitation.</i>—The assignment of the lesson. Is it clear and definite? What explanation of the work to come is given? Is the teacher familiar with the subject matter of the text? What reference is made to the relation of regular conditions to the assignment? What reference is made to previous laboratory or field work as related to the assignment?</p>	<p>Oral or written, lecture, question and answer or topical? Is there sufficient fixation? Is the recitation combined with administration? Taken as a whole, is it snappy or dull?</p>	<p>Are they definite? Is the apparent aim accomplished? Is the day's work definitely related to work which has preceded and that which is to follow? Has it been worth while so far as the application to the project is concerned?</p>
<p><i>Laboratory.</i>—Are outlines or oral directions given? Were directions written on the blackboard? Were the materials ready? Did both the teacher and pupils know what to do and how to do it? Was oral explanation given during the progress of the work?</p>	<p>Was it individual work or group work? Did it precede or follow the recitation? Was it inductive or deductive?</p>	<p>Was there a notebook write-up? Was reference made to use of this work in recitation? Was it related to a general topic of the week or month? Was it seasonal?</p>
<p><i>Field.</i>—Was the plan definite? Was the place definite and accessible? Had there been any previous discussion of the field work? Were definite instructions given and how were they given? Was the teacher</p>	<p>Was the trip conducted in an aimless, careless way or in a methodical orderly way? Were there explanations by the teacher and by others? Were the pupils questioned or asked to discuss what was seen? Was</p>	<p>Were the reports comprehensive, definite, and concise? Were they in good form?</p>



## SCORE CARD—Continued.

<i>Preparation.</i>	<i>Method.</i>	<i>Results.</i>
familiar with the place visited? What directions were given concerning a report of results?	attention called to particular points not mentioned in the outline?	
<i>Notebooks.</i> —Is there a definite understanding of what is to be included and the form to be followed?	Is it descriptive, illustrative, or outline in form? Are the notes to be written up in class or in the field in permanent form or are they to be copied?	What is the form and content of the material? Is it so organized that it is available? Is it useful? Is use made of it?
<i>Summer.</i> —Does the teacher make note during the year of things to be done in the summer? Has he a list of materials to be collected? Has he a list of boys to be visited?	Does he visit his projects at stated intervals, or does he keep closely in touch with them to know when there is need of a visit? Does he keep a daily diary of what he accomplishes? Does he have rainy-day jobs, such as preparation of outlines for the coming year?	Are his projects satisfactory? Does he know the community? Does the community know him? •

*Extension.*—There is no attempt to follow the “preparation,” “method,” and “result” outline. It is generally understood that the main feature of the extension work is the supervision of the junior projects. A summary of extension activities is suggested, as follows: Senior home projects—meetings held, meetings addressed; materials and specimens collected. Junior home projects—meetings attended; materials prepared for newspapers and magazines; charts made.

*Suggestions.*—List any of the points of the foregoing where the teacher is weak; need of additional equipment or books, or any suggested changes in administrative procedure.

*Results.*—The extent to which the suggestions have been carried out to be recorded on successive visits.

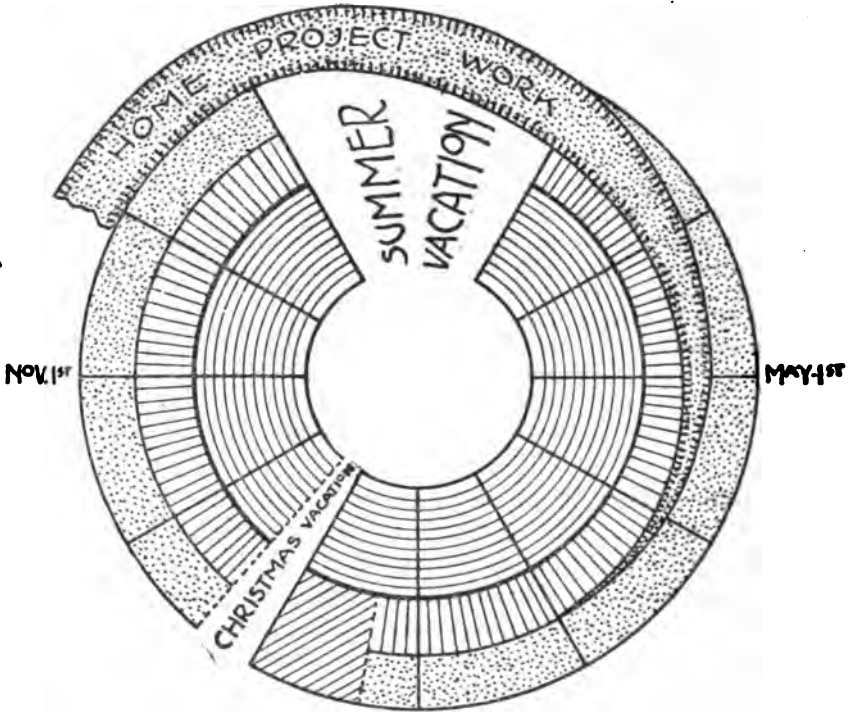
PENNSYLVANIA.<sup>1</sup>

## LEGISLATION.

The Pennsylvania Legislature of 1913 enacted a vocational education law which provides aid for three types of vocational schools or departments, as follows: (1) The day school or department, (2) the evening class, and (3) the part-time or continuation class. The law provides that a vocational school shall mean a distinctive organization of teachers, courses, and pupils approved by the State board of education. There are two ways in which all the day vocational

<sup>1</sup> The author is under obligation to Mr. L. H. Dennis, of the State department of public instruction, for valuable assistance.

• HIGH SCHOOL AGRICULTURE •



- RECREATION •
- ▨ NON • TECHNICAL • STUDIES
- ▩ VOCATIONAL • SUBJECT •
- ▤ VOCATIONAL • SUBJECT •
- ▧ PROFESSIONAL • IMPROVE •  
MENT • FOR • INSTRUCTOR •
- ▦ HOME • PROJECT • WORK •

FIG. 6.

schools may be organized, either as a separate school or as a department of another school. An "evening class" in an agricultural school or department shall mean a class giving such training as can be taken by persons already employed during the working-day, and which, in order to be called vocational, must in its instruction deal with the subject matter of, and be so carried on as to relate to, the day employment. A "part-time or continuation class" in an approved agricultural school or department shall mean a vocational class for persons giving a part of their working time to profitable employment, and receiving in the part-time school or department instruction complementary to the practical work carried on in such employment. To give "a part of their working time" such persons must give part of each day, week, or longer period, to such part-time class during the period in which it is in session.

In 1916-17 there were 17 vocational schools and 18 vocational departments in public high schools.

Two types of schools in operation under this law are the vocational department in the public high school and a vocational school. Some of the common features of the two types of vocational agricultural instruction are as follows: (1) The course in agriculture is the same for each type. (2) All teachers in a vocational school receive State aid to the extent of two-thirds of the salary of each teacher, the other one-third being paid by the township. (3) In vocational departments in high schools the State pays two-thirds of the salaries of the vocational teachers. It also reimburses outside districts one-half the amount paid for tuition of pupils attending vocational schools or departments. (4) The supervisor of agriculture is employed for 12 months of the year and devotes his entire time to the teaching of agricultural subjects.

In vocational schools agriculture for the boys and home economics for the girls is required for the first and second years. At the beginning of the third year the pupil has the option of continuing the vocational work and graduating in that department, or of changing the course and taking purely academic work for the last two years. English is required every year with all courses. In vocational departments pupils are required to pursue the four years' work in agriculture without change.

#### QUALIFICATIONS OF TEACHERS.

The State board of education through the bureau of vocational education of the department of public instruction sets the following standards for vocational teachers of agriculture: (1) A teacher of agriculture should have the equivalent of a high-school education; (2) he should be a graduate of an approved agricultural college, or in lieu thereof should have at least two years of training in a higher institution of learning, supplemented with at least four short terms or an equivalent in approved agricultural courses of study; (3) he

must have had sufficient practical farm experience to make him familiar with farming methods (this experience is intended to put him in sympathy with rural life and to make him appreciative of its problems); (4) he should have had a general well-rounded knowledge of agriculture as preferred to one who is a specialist in a limited field; (5) he should have had some experience in teaching in the public schools previous to his entering upon this work; and (6) he must show ability to make and use working drawings and also have a knowledge of the use of tools and the use of the forge.

#### SUMMER MEETING AT STATE COLLEGE OF AGRICULTURE.

Each summer the teachers of vocational agriculture are called together at the State College of Agriculture for the purpose of considering matters of professional interest. This annual meeting has in it much merit, and is followed not only in Pennsylvania but in New York and Massachusetts. The members of the staff of the agricultural college explain to the teachers what the various departments of the college are emphasizing, give assistance in the solution of individual problems, and assist as members of working committees. The college also furnishes each year a prominent speaker from outside the State. The following is the program of the meeting held July 18-28, 1916:

#### TUESDAY, JULY 18, 1916.

- 10.30 a. m. Room 7.—Horticultural Building. Getting acquainted.
- 11.00 a. m. Announcements. Assignments to sections. Arrangements for extra work.
- 2.00-4.30 p. m.
  - Forging—Room 114, Engineering Building, P. R. Hall.
  - Wood Shop—Room 207, Engineering Building, G. R. Resides.

#### WEDNESDAY, JULY 19, 1916.

- 8.30-10.30 a. m. General session
  - Room 7, Horticultural Building. The Course of Study, James S. Champion.
- 10.30 a. m.-12.10 p. m.
  - Forestry (outline)—Forestry Building, G. R. Green.
  - Dairying (Dairy lab.)—Room 57, Dairy Building, A. L. Beam.
  - Relation to the Rural Schools—Room 7, Horticultural Building. Principals and Directors. E. R. Gehr.
- 2.30-4.30 p. m.
  - Forging—Room 114, Engineering Building, P. R. Hall.
  - Wood Shop—Room 207, Engineering Building, G. H. Resides.

#### THURSDAY, JULY 30, 1916.

- 8.30-10.30 a. m. General session.
  - Room 7, Horticultural Building.
  - The Community School of the Future, L. R. Appleman.
  - Summer Transportation, W. S. Barnhart.
  - Weekly Reports and Summaries, John G. Wilson.
  - Report of banquet committee.
- 10.30 a. m.-12.10 p. m.
  - Forestry (Lab. demonstration)—Forestry Building, R. A. Chaffee.
  - Dairying (Dairy lab.)—Room 57, Dairy Building, A. L. Beam.
  - The Six and Six Plan—Room 7, Horticultural Building, Principals and Directors. E. R. Loose.
- 2.30-4.30 p. m.
  - Forging—Room 114, Engineering Building, P. R. Hall.
  - Wood Shop—Room 207, Engineering Building, G. H. Resides.

## FRIDAY, JULY 21, 1916.

8.30-10.30 a. m. General session.

Room 7, Horticultural Building.

Community Service, Discussion.

Farmers' Night Schools, L. R. Guillaume.

Special Meetings, Edgar F. Byers.

Short Courses, W. W. Reitz.

Reaching the People, H. G. Parkinson.

10.30 a. m.-12.10 p. m.

Poultry Raising (incubation)—Stock pavilion, F. D. Crooks.

Dairying (creamery lab.)—Room 57, Dairy Building, A. L. Beam.

Administrative Problems—Room 7, Horticultural Building, Principals and directors. Kimber A. Hartman.

2.30-4.30 p. m.

Forging—Room 114, Engineering Building, P. R. Hall.

Wood Shop—Room 207, Engineering Building, G. H. Resides.

## MONDAY, JULY 24, 1916.

8.30-10.30 a. m. General session.

Room 7, Horticultural Building. Home and Group projects:

What is a Project? W. L. Treager.

Projects for Town Boys, B. A. Rockwell.

Project Records, E. F. Vogel.

10.30 a. m.-12.10 p. m.

Farm Bookkeeping—Room 205, Agricultural Building, W. R. Gorham.

Poultry House Construction—Stock pavilion, F. D. Crooks.

2.00-4.30 p. m.

Killing and Dressing Chickens—Stock pavilion, F. D. Crooks.

Spray Materials—Implement shed, W. C. Gillespie.

## TUESDAY, JULY 25, 1916.

8.30-10.30 a. m. General session.

Room 7, Horticultural Building.

Report of committee on equipment.

Questions and general discussion.

Address, Dean R. L. Watts.

The Pedagogy of Agriculture, Prof. Thos I. Mairs.

10.30 a. m.-12.10 p. m.

Trip to Experimental orchard, Dr. Stewart.

2.00-4.30 p. m.

Caponizing—Stock pavilion, F. D. Crooks.

Farm Mechanics—Farm mechanics laboratory, R. A. Andree.

## WEDNESDAY, JULY 26, 1916.

8.30-10.30 a. m. General session.

Room 206, Agricultural Building.

Address, Dr. E. E. Sparks, President Pennsylvania State College.

Address, Dr. N. C. Schaeffer, State superintendent of public instruction.

Address, Dr. J. George Becht, secretary State board of education.

Brief addresses, members of the State board of education.

10.30 a. m.-12.10 p. m.

Vegetable Gardening—Room 105, Horticultural Building, M. G. Kains.

Farm Management—Room 103, Agricultural Building, W. R. Gorham.

2.00-4.30 p. m. Individual assignments.

## THURSDAY, JULY 27, 1916.

8.30-10.30 a. m. General session.

Room 7, Horticultural Building.

Publicity, R. C. Wiggins.

Club work, Clark W. Clemmer.

10.30 a. m.-12.10 p. m.

Stock Judging—Stock pavilion, W. H. Tomhave.

Landscape Gardening—Room 200, Horticultural Building, A. W. Cowell.

2.00-4.30 p. m. Fertilizers and Fertilizer Plots, C. F. Noll.

## FRIDAY, JULY 28, 1916.

8.30-10.30 a. m. General session.

Room 7, Horticultural Building. How is Vocational Agricultural Instruction Affecting the Rural Districts Economically? John W. Warner.

## TYPES OF VOCATIONAL SCHOOLS.

The vocational school, as indicated above, is coming to be the most popular form of vocational agricultural instruction in the State. Probably the Honey Brook Vocational School, maintained by the borough and township of Honey Brook, cooperating with the State of Pennsylvania, opened October 2, 1916, offers as good an example of this type of school as can be found in the State. Any boy or girl who has completed the work of the eighth grade in any township or borough not maintaining a vocational school is eligible to attend the school free of charge. A tuition fee, however, is charged the district sending students not residents of Honey Brook township or borough.

Special provision is made in this school, as well as in schools of this type throughout the State, for the admission of pupils over 14 years of age who desire vocational training and who have not completed the work of the eighth year of the graded schools.

Pupils having completed three years of work in local high schools may attend one year and receive a first-class high-school certificate.

## CURRICULA OF VOCATIONAL SCHOOLS AND DEPARTMENTS.

Climatic, soil, and economic conditions in the various sections of the State vary enough to affect the types of farming carried on; hence, a course of study in agriculture adapted to one section might not be suitable in every respect to another section. The fundamental principles underlying this vocational course will prevail in every district, but local community interests determine many of the details. The schools and departments follow, in general, the course of study as outlined in Bulletin 2 of the State department of public instruction, Agricultural Schools and Departments. All courses of study must be approved by the department of public instruction.

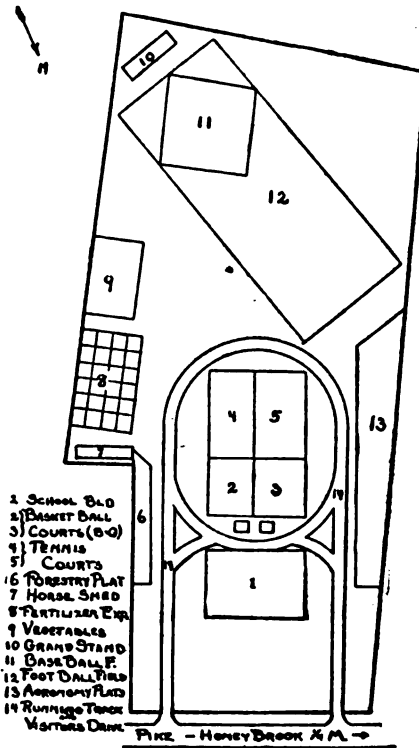


FIG. 7.—Honey Brook Vocational School.

## COURSE OF STUDY IN MOUNT PLEASANT TOWNSHIP VOCATIONAL SCHOOL.

## FIRST YEAR.

<i>Required.</i>	<i>Elective.</i>
English. (One other academic study).	Ancient history.
Boys—Poultry.	Latin.
General science.	Algebra.
Mechanical drawing.	
Shop.	
Soils.	
Vegetable gardening.	
Home project.	

## SECOND YEAR.

English. (One other academic study).	Geometry.
Boys—Farm crops.	Latin.
Forestry.	History.
Shop.	
Bookkeeping.	
Ornamental gardening.	
Home project.	

## THIRD YEAR.

English. (One other academic study).	Algebra.
Boys—Fruit.	Chemistry.
Dairying.	History.
Animal husbandry.	Latin.
Home project.	German.

## FOURTH YEAR.

English. (One other academic study).	Geometry.
Boys—Farm mechanics.	Arithmetic.
Shop.	Physics.
Rural law.	German.
Farm management.	Latin.
Fertilizers.	History.
	Civics.

A course of study extending through four years is offered in these vocational schools and departments, which, as a course, is elective to boys when they enter the school. Individual subjects in the course of study are not elective. One-half of the agricultural work must consist of actual practice in the field, laboratory, or shop. Two hours of such practical work make up one hour as given on the schedule, and the practicum periods are all double periods. It will be noticed that two academic subjects are required, together with the agricultural work. One of these must be English and the

other may be optional so far as it can be arranged for on the academic schedule. Experience shows that in some schools the brighter boys are able to carry three academic subjects without any trouble. When this is done some principals recommend that the third study be a foreign language. In that case, the work covered in this course is sufficient to meet the entrance requirements of most colleges.

Generally in the first and second years the academic work is given in the forenoon and the agricultural work in the afternoon. In the third and fourth years the agricultural work is given in the forenoon and the academic work in the afternoon. For administrative purposes the first and second year pupils are in one section in the agricultural work and the third and fourth year pupils in another. The nature of the agricultural work is such that it makes very little difference whether the first or second year's work as scheduled above comes first. The same is true of the third and fourth years. This arrangement makes it possible for one teacher to handle the agricultural work for the entire four classes, having one section in the forenoon and the other in the afternoon. When the classes become too large to be thrown together in this way, an assistant is provided.

The amount of practical training will be shown more clearly by the sample daily program in agriculture given below. The practicum periods are marked by a (\*) star.

#### SAMPLE PROGRAM.

Afternoon.

Time.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.
1. 15-1. 55	.....	Poultry.....	.....	Poultry.....	Soils.....
1. 55-2. 35	Soils.....	Forestry.....	Soils.....	*Soils.....	*Shop.....
2. 40-3. 15	*Poultry raising...	*Soils.....	*Forestry.....	*Soils.....	*Shop.....
3. 15-4. 00	*Poultry raising...	*Soils.....	*Forestry.....	*Shop.....	.....

Many trips are taken to the farms of the community for instruction in practical work. The instruction in the woodworking shop is correlated as far as possible with instruction given in the various agricultural subjects. In connection with the study of poultry raising the boys built trap nests, feed hoppers, hovers, brooders, and colony houses. Hotbeds and cold frames are made by the class in vegetable gardening.

#### TOWANDA HIGH SCHOOL.

The following is a description of the first year's work at the Towanda High School, exclusive of home project work, which is more or less typical of the work covered in all the vocational agricultural instruction.



*Poultry raising.*—The course in poultry raising consists of lectures and recitations on the egg, its construction, composition, fertilization, incubation, and brooding; poultry feeds and feeding; poultry-house construction; insect pests and parasites; and common poultry diseases. The laboratory work is an essential part of the course. In the laboratory a careful study is made of different breeds; methods of preparing poultry for market, such as killing, picking, cooling, packing, etc.; caponizing and judging.

*Soils.*—Soil management, which is fundamental in agriculture, is taught in the first year. The soils laboratory has a very complete equipment for a high school. Soils apparatus of all kinds has been purchased. The soils equipment has cost in round numbers \$225. Many field trips are connected with the study of soils.

*Farm forestry.*—The course in farm forestry is arranged to teach the principles of forestry as applied to the care and formation of the wood lot; relation of forestry to agriculture; wind breaks; forest plantations; collection, storage, and planting of tree seed; estimation of board feet and cord wood; methods of preventing decay of fence-posts and shingles. Careful study is made of the various trees in reference to their adaptation and use. The practicum work consists of field excursions and laboratory exercises. This includes a careful study of the habits of growth; the identification of trees by leaf, bud, twig, and bark; estimating timber, methods of thinning; natural and artificial reproduction.

*Shopwork.*—The course in shopwork aims to teach the correct use of common wood-working tools. A complete set of carpenter's tools is placed at the disposal of each individual in the class. Proper methods of their use and care are demonstrated. The student is taught to make many articles, such as saw horses, feed hoppers, chicken coops, swinging stanchions, doubletrees, whiffletrees, step-ladders, etc., all of which are useful on the farm.

Before taking up the woodwork, the student is taken to the drawing-room, where the work is completely outlined and a detailed drawing made of the proposed design. Furthermore, the student is not only taught to make pencil sketches and drawings, but is given an opportunity to press and blueprint his work. This gives a student a thorough drill in the drawing-room in drawing-room standards and practices. A completely equipped drawing-room has been prepared for the above work. Another phase of the shopwork is the forge room. Three forges and three anvils have been installed. In this room the boys will learn the fundamental principles of iron-work and will make such articles as coal chutes, chain links and rings, chain hooks, whiffletree hooks, clevises and bolts, hay forks, chisels, etc.

In the laboratory pupils are given direction sheets, similar to the following, outlining work to be prepared, with the request that

each exercise be written up under the headings of object, material, method, results, and conclusions:

DIRECTION SHEETS.

**EXERCISE 1.—A study of some of the common weeds and their seeds.**

Reported by..... Date.....  
 Family of plant..... Genus and species.....  
 Common name or names.....  
 The plant. Some characteristics as to size, annual or perennial, habit of growth, special soil or other requirements, season of maturity, etc.  
 Best means of eradicating.....  
 The seed. Its color, shape, characteristic markings, abundance, special manner of distribution, etc.....  
 Size compared with seed in which usually found and how best removed.....  
 References. Bulletins:

Ohio 142, 175.	Farm Weeds: Ottawa,	Kentucky 124.
Kansas 56, 57, 141.	Canada.	Michigan 260.
Nevada 38, 47.	Manual of Botany:	B. P. I. 84.
Iowa 88.	Gray.	Farmers' 428.

Make drawings of the seed natural size and then enlarged so as to show characters useful for identification. Sketch the plant or plant parts which may point out distinctive features.

**EXERCISE 2.—Oats.**

Name..... Laboratory section..... Date.....  
 (Label all parts of each drawing.)

1. Make a drawing of an open panicle of oats showing—(a) Rachis. (b) Branches. (c) Pedicel.
2. Make a drawing of a single spikelet showing—(a) Outer glume. (b) Two oat grains. (c) Awn (if present). (d) Sterile flower.
3. Make a drawing of a cross section of a single oat grain showing—(a) Flowering glume. (b) Palea. (c) Kernel.
4. Make a drawing of a longitudinal section of the oat kernel showing—(a) Covering. (b) Endosperm. (c) Germ.
5. What is the difference between a spike and a panicle?
6. How many branches in first whorl? Second?
7. Is there any variation in length of the pedicel?
8. Compare outer glume of oats with the outer glume of wheat.
9. Weight of 25 upper grains..... 25 lower grains.....
10. Remove the kernels from the hull of 25 grains and determine the per cent of hull.
11. Compare the flowering glume and palea of oats with the same of wheat.

**EXERCISE 3.—Leguminous forage plants.**

Name..... Laboratory section..... Date.....  
 (Underscore character applying.)

1. Leaves. Spirally arranged, opposite; abundant, medium, not abundant.  
 Leaflets: Number....., palmate, pinnate; smooth, hairy, edges smooth, serrated.  
 Stipules: Attached to petioles, not attached to petioles.
2. Stems. Height..... Diameter 1 inch from base....., erect, stand decumbent, trailing.  
 Stems: Round, square, angular; hairy, smooth, stoloniferous, not stoloniferous.  
 Branches: None, few, many.

3. Inflorescence. Raceme, umbel, capitulum. At end of leaf bearing stem or branch, or springing from the axil of leaf.
4. Flowers. Calyx, number of teeth..... Relative length of inferior tooth....., calyx tube, hairy, smooth, number of ribs.
5. Pods. Roundish, kidney shaped, elongated; straight, twisted; opens longitudinally, opens transversely.
6. Seed. Usual number per pod ..... Easily removed from pod, difficult to remove. Reason.....  
 Shape: Viewed from largest diameter, round, oval, elliptical, kidney shaped; second largest diameter, round, oval, elliptical, kidney shaped.  
 Color: Orange, yellowish brown, dark olive green, black, yellow, reddish red, green, yellowish green.  
 Radicle: More than half the edge, less than half the edge; tip of radicle prominent, tip not prominent.  
 Hilum: Round, oval, elongated.
7. Sketch leaflets. Sketch pod.

#### EXERCISE 4.—Structure of the corn plant.

Name..... Laboratory section..... Date.....

##### 1. The staminate flower.

- (a) Make a general drawing of the tassel showing the number and arrangement of the spikes.
- (b) Make a detail drawing of a spikelet showing the outer and inner glumes or bracts, the lodicules, and the number of anthers. Label all parts.

##### 2. The pistillate flowers.

- (a) Make a drawing of a single spikelet of the ear showing the bracts or glumes, the ovary, the style and stigma.
- (b) Examine the silk with the microscope and describe.

##### 3. Draw a portion of a corn stalk bearing a leaf showing: (a) Leaf sheath. (b) Leaf blade. (c) Ligule. (d) Auricle. (e) Rain guard. (f) Mid-rib.

##### 4. Define node and internode.

Are the internodes the same length throughout the stalk? Why?

Discuss the fibro-vascular bundles as to their location, structure, and function.

What is the structure of the pith? Its function?

Where does growth take place in the corn plant?

##### 5. What is the arrangement of the leaves on the stalk?

Where does the leaf grow from?

Discuss the purpose of the leaf sheath, ligule, auricle, and rain guard.

What gives the wavy effect to the leaf blade?

What is the purpose of the mid-rib?

##### 6. What is a staminate flower? A pistillate flower? Locate each on the corn plant.

##### 7. Is corn a self-fertilizing plant? Explain the method of fertilization, tracing the route of the pollen grain.

##### 8. What is a barren stalk?

#### EXERCISE 5.—Litmus test for soil acidity.

Object—To determine whether a soil is acid or alkaline, and to ascertain the need of lime.

Apparatus—Beakers, red and blue litmus paper, soil, and neutral water.

Manipulation.

1. Place a piece of blue and a piece of red litmus paper in the bottom of each of two small beakers.
2. Cover with a piece of filter paper, wet it with distilled water, and press the paper smoothly over the surface with a glass rod.

Manipulation—Continued.

3. Half fill one beaker with soil and saturate it with water.
4. Let both beakers stand for an hour and examine the litmus papers.
5. Repeat with sandy loam, loam, and much soil.

Questions:

1. Is there any difference in color between the pieces in the beaker with no soil and the pieces in the beaker with soil?
2. What does it indicate?
3. Why use a second beaker containing no soil?

Remarks: It is comparatively easy to test field soil by taking a lump of moist soil and making a ball of it, then with a knife make a slit in the ball and insert the litmus paper.

Caution: Do not allow perspiring or moist fingers to touch the litmus paper.

**EXERCISE 6.—To determine the pore space in soils.**

Directions: Carefully sieve some air dry clay in an 80 or 100 mesh sieve; do likewise with some sand in a 40 mesh sieve. Weigh 2 Mason jars, recording the weight; to one add 250 grams of the clay which you have prepared and again record the weight. Add the same amount of the prepared sand to the other jar. Then using the graduate add enough water to each to saturate the soil. Whenever the water stands on the top and will not enter the soil then it is saturated. Record your figures in a table like the following:

Results: Kind of soil .....; weight of jar and soil .....; cubic centimeters of water .....; per cent pore space .....; clay .....; sand .....

Carefully write up the experiment in your notebook, after which you will answer the following questions:

1. How much soil is pore space?
2. About what per cent of this pore space should be filled with water in a good soil?
3. Which of the two soils used in this experiment has the larger grains?
4. Explain the answer to the previous question with reference to the results obtained in this experiment.

After having read the directions direct the work for each one; then proceed to do it neatly, promptly, and orderly.

*Home projects.*—Each boy taking the agricultural course must each year carry on an approved agricultural project. The following is a daily record of an agricultural project:

Name of school.	Name of student.				
Title of project.	Date.				
Record of work done—receipts—expenditures—observations, etc. (give details).	Hours labor.			Dr.	Cr.
	Self.	Others.	Horses.		
Total.....					

Weather observations. (Temperature, wind, fair, cloudy, rain, snow, etc.)

Report inspected by

-----  
Supervisor of Agriculture.

This project work is the connecting link between the home and the school in the boy's education. By means of this project work, which is both productive and educational, the boy's training is carried on at home as well as at school. It is this project work, with its close correlation with the work of the classroom, laboratory, and shop that makes the work vocational in its nature, as it thus aims in a very definite way to prepare boys for occupations connected with the tillage of the soil and other activities of the farm. The supervisor of agriculture is employed for the entire year for the specific purpose of supervising these agricultural projects during the summer months in connection with the other community work carried on by him. One boy will take the growing of an acre of corn for his project, another boy grows 3 acres of potatoes. One boy raised 1,500 tomato plants. He purchased two canning outfits with which he canned his products. In addition to canning tomatoes he canned corn, beans, and peas in spare moments. He had his own labels printed and put upon the market his own brand of canned corn, beans, tomatoes, and peas. This he accomplished at the end of his first year in the agricultural course. He learned much during this summer about the value of labor and thrift. He had few idle moments for loafing. He gained some specific knowledge concerning the raising and canning of tomatoes and incidentally cleared for himself \$130, after paying for his canning outfits and all expenses in connection with his project.

A careful survey of the farm and home conditions of each pupil is conducted by the teacher of agriculture before the selection of any project by the pupil, and in order that the hearty cooperation of the parent may be secured frequent conferences between the teacher, parent, and pupil precede the selection of the project.

The project work begins in the classroom long before the ground is prepared and the seed sown, as each boy makes a very definite study in advance of the project which he expects to undertake. He also keeps a record of books and authorities consulted, methods to be used, receipts, expenditures, labor, results, etc. This record in itself is of considerable educational value.

The details in carrying out individual and group projects are quite similar to those employed in the home project work of the States of New York and Massachusetts.

*Equipment.*—The Honey Brook school is under the direction of four specially trained teachers and the work is carried on in one of the finest vocational school buildings in the State. The building contains a unit kitchen, a sewing and fitting room, model bathroom, dining room, dairy room, poultry room, carpentry shop, forge shop, agricultural and other laboratories, recitation and study rooms.

Five acres of ground (fig. 7) have been purchased for the use of the school. A baseball diamond, football field, running track, and tennis courts are available for the use of the school and people of

the community. A forestry nursery, fertilizer experiment plats, grain and grass plats, a vegetable garden, hotbeds, cold frames, etc., are maintained by the students for demonstration work.

The State department of education requires at least one room for the exclusive use of the agricultural schools, and when a regular recitation room is used another room is necessary as a laboratory. In addition to these two rooms there is provided a room to serve as a shop, in which is located the woodworking tools, the forge, and the anvil. One of the most, if not the most, complete equipments for vocational agricultural instruction in the State is to be found in the agricultural department of the Towanda High School. Over \$1,000 was expended for equipment the first year. A recitation room, soils laboratory, a carpenter shop, forge room, school creamery, a poultry room, all of which have a very complete equipment for vocational agricultural instruction, exist. The agricultural instructor has been able to secure \$450 worth of donations for equipment.

#### AVERAGE EQUIPMENT.

The following is a required list which represents the average equipment in a Pennsylvania State vocational school. Many of the articles listed are made in the shop, but some are collected locally and others are donated, as indicated above, by commercial firms.

#### REQUIRED SOILS APPARATUS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Brass soil tubes, 6.	Hydrometer, 1.
Support frame for above (not shop-made), 1.	Glass funnels (4-inch or 6-inch diameter), 3.
Supply tank for same, 1.	Glass flasks (1-pint size), 12
Glass tubes (2 by 24 inches), 6.	Beakers (quart size), 3.
Galvanized iron tank (6 by 8 by 24 inches), 1.	Beakers (200 cc.), 24.
Support frame for same (shop-made), 1.	Beakers brushes, 2.
Aspirator bottle, with connections, 1.	Test tubes ( $\frac{3}{4}$ inch by 5 inches), 24.
Soil thermometer, 1.	Test tube brushes, 1 dozen.
Glass tubes (1 by 12 inches or $1\frac{1}{2}$ by 12 inches), 4.	Bottles for solutions (half gallon), 6.
Rack or support frame for same (shop-made), 1.	Rubber tubing ( $\frac{1}{4}$ inch), 12 feet.
Soil container for waste, 1.	Labels (three sizes), 3 boxes.
Roll towel paper, 1.	Gasoline blast lamps or equivalent (for schools not having gas), 2 or 3.
Shears, 1 pair.	Scoops, 4.
Mason fruit jars (1-quart), 12.	Sieves (10-20-40-60-80-100 mesh), 6.
Specific gravity bottles (unadjusted), 6.	Tripods (6 inches in diameter), 3.
Drying oven, 1.	Pair pliers, 1 pair.
Evaporating dishes, 12.	Soil pans, 6.
Porcelain crucibles, 6.	Cross section paper, 1 quire.
Burettes (50 cc.), 2.	Rolling pin, 1.
Balance weighing to 1/10 grams, 3 pairs.	Tin cans (old ones will do), 3 dozen.
Weights for each 1 kilo to 5 grams, 1 set.	Steel spatulas, 6.
Triple beam balance weighing 1/100 grams (centigrams), 1.	Twine, 1 ball.
Extra weight for same, 1.	Paraffin wax, 1 pound.
Magnifiers (tripod), 12.	Muslin, 2 yards.
Counter brushes, 2.	Soil sugar (can be made locally), 1.
Tin funnels, 2.	Water bath, 1.
Small bottles (4 or 8 ounces), 1 dozen.	Soil bins, 4.
Vials, a supply of.	Vasculum (can be made by tinsmith), 1.
Glass tubing ( $\frac{1}{4}$ inch diameter), 1 pound.	Drainage apparatus (shop-made), 1.
Graduated cylinders:	Pie plates, 12.
(550 cc.), 2.	Red and blue litmus paper, 1 bottle or vial of each.
(100 cc.), 2.	Filter paper (papers 2 inches in diameter), 1 pack.
Hydrometer jars (250 cc.), 6.	Filter paper (6 inches in diameter), 1 pack.

## SUPPLY COMPANIES.

Welch Scientific Co., Chicago, Ill.  
 Central Scientific Co., Chicago, Ill.  
 Columbia Supply Co., Indianapolis, Ind.

Eimer & Amend, New York, N. Y.  
 Arthur H. Thomas Co., Washington Square, Philadelphia, Pa.

## REQUIRED POULTRY APPARATUS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Prairie State incubator (100-egg size or larger), 1.  
 Cyphers incubator, 1.  
 Candee incubator, 1.  
 Killing knives (4 kinds), 4.  
 Game shears, 1 pair.  
 Dressing knives, 4.  
 Caponizing set, 1.  
 Egg cartons and packages, crates, etc., supply of.  
 Feed hoppers of various types (commercial and shop-made), supply of.  
 Drinking fountains of various types, supply of.  
 Commercial trap nests, supply of.  
 Shop-made trap nests, supply of.  
 Brooders (one mammoth, one smaller size), 2.  
 Fattening crates (commercial and shop-made), supply of.  
 Egg tester (commercial, also one shop-made), 1.  
 Spray pump, 1.  
 Exhibition coops (one or more) (both commercial and shop-made).  
 Oats sprouter (one or more) (both commercial and shop-made).

Catching hook (shop-made), 1.  
 Leg bands, collection of.  
 Various poultry feeds, collection of.  
 Poultry charts, supply of.  
 Insect powders and spray materials, collection of.  
 Poultry remedies, collection of.  
 Feathers (all types and kinds), collection of.  
 Supply of—  
 Records.  
 Incubators.  
 Eggs.  
 Brooders.  
 Slaughtering.  
 Feeds.  
 Fattening.  
 Collection of various types of eggs (normal and abnormal).  
 Egg candling chart, 1.  
 (Bureau of Chemistry, U. S. D. A.)  
 Minimum-maximum thermometer, 1.

## REQUIRED FORESTRY APPARATUS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Forestry maps.  
 Tree calipers (shop-made).  
 Mattox, 1.  
 Axes (1 double bitted), 2.  
 Crosscut saw, 1.  
 Bark spud, 1.  
 Chain grabs, 1 pair.  
 Brush hook, 1.  
 Board rule (Scribners & Doyle), 2.

Collection of—  
 Leaves.  
 Twigs.  
 Seeds.  
 Weeds.  
 Log rule, 1.  
 Hypsometer (may be made in shop), 1.  
 Jacobs staff, 1.

## REQUIRED CARPENTER SHOP EQUIPMENT FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Crosscut saws (24-inch, 10 pt., No. 7 Disston or equivalent), 4.  
 Rip saws (26-inch, 7 pt., No. 7 Disston or equivalent), 2.  
 Claw hammers (13-ounce Bell Face, A.E., No. 12 Hammon or equivalent), 8.  
 Framing squares (24-inch, No. 100 Br. Sargeant or equivalent), 4.  
 Iron stock try-squares (6-inch, No. 5½ Disston or equivalent), 12.  
 Iron block planes (6 by 1½ inches, No. 9½ Stanley or equivalent), 12.  
 Iron smooth planes (8 by 1½ inches, No. 3 Stanley or equivalent), 3.  
 Jack planes (14-inch, No. 5 Stanley or equivalent), 12.  
 Iron joiner planes (22-inch, No. 7 Stanley or equivalent), 2.  
 No. 45 Stanley combination plane or equivalent, 1.  
 Beech gauges (No. 64½ Stanley or equivalent. Combination), 6.

Chisels, ½, ¾, 1, 1½, 2, 1 to 2 inches, 1 each.  
 Chisels (¾-inch and 1-inch), 12.  
 Dividers (8-inch winged No. 35 Socket Firmer), 2 pairs.  
 Sweep braces (8-inch), hatchets No. 323 Barbers or equivalent. Precision, 2 pairs.  
 Expansive bit wrights (¾ to 3 inches, large or equivalent), 7.  
 Drill bits (1 each No. 2-3-4-5 imported), 12 assorted.  
 Bits (2), screwdriver (1 each No. 10) ¾ and ½ inch H. S. & Co. or equivalent.  
 R. J. bits in wood case, 1 set.  
 Rose countersink (¾-inch, No. 10, H. S. & Co. or equivalent), 1.  
 Reamer, 1.  
 Bit gauge, 1.  
 Hatchets (4-inch, No. 1½ Hammond shingling or equivalent), 2.  
 Mallets (No. 3, second growth hickory. Square), 4.  
 Rulers (2-foot, 2-fold, No. 18 Stanley or equivalent), 12.

Nest of pruning saws, No. 3 Disston or equivalent, 1 nest.  
 Screw drivers (1 each 4, 6, 8 inch; blades, H. S. & Co. New Century or equivalent), 3.  
 Scrapers (steel cabinet, 3 by 6, H. S. & Co. or equivalent), 2.  
 Screws (hand 12-inch, Jorgenson, No. 2),  $\frac{1}{2}$  dozen.  
 Nail sets (1 each Nos. 1-2-3-4, H. S. & Co. or equivalent), 4.  
 Spokeshaves (iron handle with planing blade), 3.  
 Grindstone complete, Cyco (20 to 22 inches), 1.  
 Bench grinder (8-inch, Pyke Whirlwind, with pure carborundum wheel), 1.  
 Stone, carborundum No. 108, 8 by 2 by 1, double-faced combination, 2.  
 Drawshaves (8-inch, Witherby or equivalent), 2.  
 Spirit level (No. 0, 24-inch, Stanley or equivalent), 1.  
 Hack saws (12-inch, No. 4 Disston or equivalent), 6.  
 Glue pot, 1.  
 Glue, supply of.  
 Screws of all sizes.  
 Screw eyes.  
 Mitre box. Goddell Mfg. Co., Greenfield, Mass., 30-inch saw, 1.  
 Axe (forestry), 1.  
 Orange shellac, 1 gallon.

Wood alcohol, 1 gallon.  
 Varnish, 1 gallon.  
 Saws, 1 set.  
 Saw files (14 pt., 10 pt., 3 8-inch flat.  
 Dowel pin (sheet steel) cutter, 1.  
 Files, 1 each, wood hasp, flat  $\frac{1}{2}$  round; rattail, 4.  
 Work benches (6 double or 12 single. Long benches on side of room preferred.  
 Three-foot clamps, 3.  
 Monkey wrench, 1.  
 Pliers, 1 pair.  
 Stillson wrench, 1.  
 Tin shears, 1 pair.  
 Hack saw, 1.  
 Letters and numerals, Lumber, 1 each.  
 Coping saw, 1.  
 Boards, white pine, 12 feet by 12 by 1 inch, rough, 10.  
 Pieces, white pine, 12 feet by 6 by 2 inches, rough, 3.  
 Boards, white oak, 12 feet by 12 by 1 inch, rough, 5.  
 Pieces, white oak, 12 feet by 6 by 2 inches, rough, 2.  
 Pieces, white oak, 12 feet by 3 by 3 inches, rough, 2.  
 Boards, white pine, 10 feet by  $\frac{1}{2}$  by 8 inches, rough, 5.

#### VEGETABLE GARDENING SUPPLIES FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Spade, 1.  
 Rakes (iron), 2.  
 Hoes, 3.  
 Wheelhoe. Combination seeder, 1.  
 Old store boxes (for making flats).  
 Hotbed } Lumber, sash, etc., for same.  
 Cold frame }  
 Flats for germination tests.  
 Rotted manure.  
 Composted soil.  
 Vegetable seeds (all kinds).  
 Spotting boards, 6.  
 Wooden dibbers, 6.  
 Planting sticks, 6.  
 Watering cans (fine rose) (coarse rose), 2.

Sieves, large and small mesh, 2.  
 Trowel, 1.  
 Supply of—  
 Pot labels.  
 Bottles or slide covers for seed collections.  
 (Punch and binding tape.)  
 Rye straw.  
 Seed catalogues.  
 Paper pots, 200.  
 Fertilizer sample set.  
 Fertilizers.  
 Small amount of land for stock crops.  
 Very desirable—  
 A lean-to greenhouse.

#### FARM CROPS SUPPLIES FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Many of these supplies should be gathered during the summer, properly dried, and stored away for class use.

Germination boxes 28 by 14 by 3 inches (inside dimensions).  
 Grains, supply of.  
 Ear corn—Types and varieties, supply of.  
 Supply 5 ears to each pupil.  
 Smooth wheat, 1 sheaf.  
 Bearded wheat, 1 sheaf  
 Oats (side oats and spreading), 1 sheaf.  
 Sample plants.  
 Seed of each legume (kept in quart jars), 1 quart.  
 Mouse-proof storage box or some cans with covers.  
 Samples of 6 types of corn.  
 Samples of varieties of grains.  
 Collection of weeds. (Bulletin 586, U. S. Department of Agriculture.)  
 Collection of weed seeds.

Compound microscope.  
 Quart jars, 1 dozen.  
 Small platform scales.  
 Tripod magnifiers.  
 Several varieties of potatoes.  
 Riker mounts (for diseases).  
 Wad cutter (10 gauge).  
 Pasteboard.  
 Paste tape.  
 Glass (3 $\frac{1}{2}$  by 4 $\frac{1}{2}$  inches).  
 Formalin.  
 Water heater.  
 Thermometer.  
 Muslin, 5 yards.  
 Blotter paper, 6 squares.



REQUIRED LANDSCAPE GARDENING EQUIPMENT FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

- |  |  |
|--|--|
| <p>Rulling pens, 12.<br/>                 Irregular curves, 6.<br/>                 Higgins's drawing ink (black), 6 bottles.<br/>                 Higgins's drawing ink (red), 2 bottles.<br/>                 Drawing paper.<br/>                 Tracing cloth.<br/>                 Blue-print frame and paper.<br/>                 Tree pruner, 1.<br/>                 Hedge clipper, 1.<br/>                 Two-hand shears, 1.</p> | <p>Pruning shears, 3.<br/>                 50-foot tape line, 1.<br/>                 100-foot tape line (steel graduated to feet and tenths), 1.<br/>                 Mallets (3-pound), 4.<br/>                 Gongs (1-inch), outside bevel, 4.<br/>                 Chisels (1½-inch), heavy, 4.<br/>                 Hand axe, 1.<br/>                 Pruning saws, N. Y. S. pruner, 3.</p> |
|--|--|

BULBS AND CUTTINGS.

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|---|---|
| <p>Small protractors, 2.<br/>                 Thumb tacks.<br/>                 Shrubs and seeds.</p> | <p><i>Very desirable:</i><br/>                 Plane table and alidade.<br/>                 Wheelbarrow.</p> |
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REQUIRED FRUIT-GROWING EQUIPMENT FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

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| <p>Grafting knives and tools.<br/>                 Pruning saws, 12.<br/>                 Ladder.<br/>                 One knapsack and one barrel sprayer, mounted.<br/>                 Types of nozzles.<br/>                 Materials for wax and cord or twine.<br/>                 Stions and seedlings.<br/>                 Packing table and boxes and wrappers.<br/>                 Barrels and press.<br/>                 Tools for planting.<br/>                 Fruit for study and judging and identifying.<br/>                 Paper plates for exhibits:<br/>                 Apples.<br/>                 Pears.<br/>                 Peaches.<br/>                 Grapes.<br/>                 Plums.<br/>                 Quinces.</p> | <p>Spray materials:<br/>                 Lime.<br/>                 Sulphur.<br/>                 Copper sulphate.<br/>                 Paris green.<br/>                 Arsenate of lead.<br/>                 Paints for wounds—Disinfectants.<br/>                 Disease specimens.<br/> <i>Additional.</i><br/>                 Lime sulphur cooker, 1.</p> |
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REQUIRED ANIMAL-HUSBANDRY EQUIPMENT FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

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| <p>Horsebooes—Heavy and light; front and back; right and left.<br/>                 Chart of animals—Pennsylvania Farmer.<br/>                 Feeding rack.<br/>                 Clippers.<br/>                 Hoof tester.</p> | <p>Hoof clippers.<br/>                 Rasp.<br/>                 Creolin.<br/>                 Oil-soap-sponge-emery cloth.<br/>                 Sample of feeds.</p> |
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EQUIPMENT OF DAIRY LABORATORY FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

Twelve students' apparatus.

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| <p>Cream separators (not over 400 pounds capacity), 3.<br/>                 Barrel churns (not over 5-gallon capacity), 3.<br/>                 Table butter worker, 1.<br/>                 Cream scales, (1-bottle, graduated 9, 10, and 18 grams), 2.<br/>                 Dippers (1 quart), 4.</p> | <p>Shotgun cans (12-quart), 6.<br/>                 Chatillon milk scales (30 pounds graduated in 20th), 1.<br/>                 Hand tester (12-bottle, closed), 1.<br/>                 Butter paddles or spades (4 by 6 inch), 6.<br/>                 Horse-hair sieves (8 inches in diameter), 2.</p> |
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**DAIRY GLASSWARE FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.**

All graduated glassware to be according to specifications recommended by the Official Dairy Instructor's Association and guaranteed accurate.

Ten per cent milk test bottles, 2 dozen.  
 Nine-gram 6-inch 50 per cent cream test bottles, 1 dozen.  
 17.6 cc. pipettes, 3 dozen.  
 Large-neck 6-ounce bottles, with corks, 4 dozen.  
 N. H. O. H. bottle, 1.  
 Acid bottles (10-14 ounce), marked " $H_2SO_4$  Poison", 6.  
 Acid measures (graduated 17.5 cc. and 8.8 cc.), 1 each.  
 Skim-milk bottles (graduated to 1/100 per cent), 1 dozen.  
 Lactometers, 2 each.  
 Burettes (50 cc., with pinch cock, graduated 1/10 per cent), 2.

Stands for above burettes, 2.  
 Dairy thermometers (graduated accurately to  $212^{\circ}$  F.),  $\frac{1}{2}$  dozen.  
 Trowbridge plugs for milk, 4.  
 Trowbridge plugs for cream, 4.  
 Pipettes (25 cc.), 6.  
 Ordinary water glasses for acid tests, 6.  
 Milk bottles brushes for test bottles, 12.  
 Wyandotte cleanser.  
 Scrubbing brushes, 2.  
 Waste crocks (5-gallon), 5.  
 Carboy commercial pure sulphuric acid, 1.82 sp. gv., 1.  
 Alcohol (95 per cent), 1.  
 Phenolphthalein, 2 ounces.

**DAIRY APPARATUS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.**

Dairy apparatus can be secured from the following concerns:  
 D. H. Burrell & Co., Little Falls, N. Y.  
 Creamery Package Mfg. Co., 1907 Market Street, Philadelphia, Pa.

Dairymen's Supply Co., 1919 Market Street, Philadelphia, Pa.  
 Chester Dairy Supply Co., Chester, Pa.  
 Oakes & Burger, Cattataugus, N. Y.  
 A. H. Barber Creamery Supply Co., Chicago, Ill.

**DAIRY GLASSWARE.**

Dairy glassware can be secured from the following concerns:  
 Louis F. Nafis, 544 Washington Boulevard Chicago, Ill.

Wagner Class Works, 695-697 East 132d Street, New York, N. Y.  
 Also from any of the companies mentioned above under dairy apparatus.

**REQUIRED FORGE EQUIPMENT FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.**

For 25 students.

	Approximate cost.		Approximate cost.
Forges, 4.....	\$120.00	Anvils (100-pound), 4.....	\$39.00
Hot chisel (1 $\frac{1}{2}$ -inch), 1.....	.40	Tongs (1-inch), 4.....	1.20
Cold chisel (1 $\frac{1}{2}$ -inch), 1.....	.40	Tongs (1 $\frac{1}{2}$ -inch), 4.....	1.40
Flatters (2-inch), 2.....	.90	Tongs (1 $\frac{3}{4}$ -inch), 4.....	1.40
Swage (1-inch top), 1.....	.40	Tongs (2-inch), 4.....	1.80
Swage (1-inch bottom), 1.....	.50	Volt tongs (1-inch), 4.....	
Heading tools (1-inch), 4.....	2.40	Volt tongs (1 $\frac{1}{2}$ -inch), 4.....	
Punches (1-inch), 2.....	.70	Volt tongs (1 $\frac{3}{4}$ -inch), 4.....	
Hardies (1 $\frac{1}{2}$ -inch), 5.....	2.70	Volt tongs (2-inch), 4.....	
Center punches, 4.....	.60	Shovels, 4.....	4.00
Steel squares, 4.....	1.00	Pokers, 4.....	.90
Vall peen (16-ounce), 4.....	2.40	Flat-files (12-inch), 2.....	.50
Flat peen (32-ounce), 4.....	2.40		
Sledge (8-pound), 1.....	.72		
Blacksmith vises (4 $\frac{1}{2}$ -inch), 2.....	9.90		187.52

*Desirable.*

Hand drill..... 9.50  
 Taps and dies (1 set) or screw plate..... 6.00

Grover, 1.....  
 Horseshoe punch, 1.....

**FORGING PROJECTS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.**

Open link.  
 Pipe hook or cleft graft wedge.  
 Meat hook.  
 Hay hook.  
 Chain hook or olevis.  
 Gate hook.  
 Right angle brace.  
 Upset bolt head.

Chain links and ring, 3.  
 Splice weld.  
 Welded bolt head.  
 Whiffletree hook.  
 Chisel.  
 Cape chisel.  
 Horseshoe—Turn heels and weld on toe calk.

## FARM MECHANICS FOR VOCATIONAL SCHOOLS AND DEPARTMENTS OF AGRICULTURE.

*Soldering and tinning.*

Soldering copper, 1½ pounds.  
 Sal ammoniac (solid preferred).  
 Flux (some kind).  
 Tinner snips (No. 9).  
 Ball Peers hammer (light).  
 Old tin can.  
 Galvanized iron.  
 Wash boilers.  
 Enameled ware.  
 Milk utensils.  
 Tin (20 tin) (1 sheet of 20 by 29), for four people.  
 Bottles and brushes for flux.  
 Pipe vise (No. 1), 1.  
 Small pipe cutter for 2-inch pipe, 1.  
 Stocks and dies, 1 complete set.  
 Sperm oil, 1 can.  
 Pipe reamer for 1½-inch pipe, 1.  
 Pipes and fittings.  
 Babbiting of bearings.  
 Ladle (large size).  
 Shafting and bearings.

Twine (heavy, smooth).  
 Cardboard.  
 Clay.  
 Scraping tools.  
 Wooden plug for oil hole.  
 Level (carpenter's).  
 Plumb bob.  
 Chalk.  
 Belt lacing.  
 Belt (6 inch), 1.  
 Belt (4 inch), 1.  
 Belt (3 inch), 1.  
 Rope, tying:  
 Ten feet of ¼-inch rope for each student.  
 Two-inch pipe to tie around.  
 One level and one plane table and Alcedo.  
 Chaining 100 feet steel tape.  
 Crating and boxing.  
 Drain tile:  
 Four-horsepower gas engine for shop, with shafting for rip saw, crosscut saw, lathe grindstone, churns, etc.

## VOCATIONAL AGRICULTURAL SCHOOL BOOKS.

The following list of books has been passed upon by the textbook committee of the yearly conference (1916) to be used in the vocational agricultural schools of Pennsylvania.

The numbers 1, 2, and 3 following the names of the books will signify first, second, and third choice.

## Soils:

Soils and Soil Fertility. Whitstone and Walster. Webb Publishing Co., St. Paul, Minn.  
 By Lyon and Pippin (2). Macmillan, New York.  
 By Hunt and Burkett (2).

## Poultry:

Poultry Keeping (1). Lewis. Lippincott & Co., Philadelphia, Pa.  
 Poultry Production. Lippincott. Lea & Febinger, Philadelphia, Pa.

## Forestry:

Farm Woodlot. Chaunev. Macmillan Co., New York.  
 By Moon and Brown (2). John Wiley & Sons.

## Shop:

Farm Shopwork. Brayce and Mayne. American Book Co.

## Farm crops:

Field Crops. Livingstone. Macmillan Co.  
 Field Crops. Wilson and Warburton (2). Webb Publishing Co.

## Vegetable gardening:

Beginners' Garden Book. French. Macmillan Co.  
 Vegetable Gardening (2). Green. Webb Publishing Co., St. Paul, Minn.

## Dairying:

Milk and Its Products (1). Wing. Macmillan Co.  
 Dairy, Cattle, and Milk Productions (2). Eckles. Macmillan Co.  
 Dairy Laboratory Manual. E. L. Anthony. John Wiley & Son.<sup>1</sup>

## Fruit growing:

Principles of Fruit Growing. Bailey (1). Revised edition. Macmillan Co.  
 Popular Fruit Growing. S. B. Green (2). Webb Publishing Co.

## Fertilizers:

Fertilizers. Vorhees. Macmillan Co.

## Animal husbandry:

Animal Husbandry for Schools. Harper. Macmillan Co.

## Landscape gardening:

Committee could make no positive recommendation. Each individual will have to select a book from the following list that most nearly meets his conditions and ideas:

Manual of Gardening. Bailey. Macmillan Co.  
 Landscape Gardening. Maynard. John Wiley & Son.  
 Rural Improvement. Waugh. Orange Judd Co.  
 What, Where, When, and How to Plant. (Free.) By E. E. Bohlander Nursery. Tipppecanoe City, Ohio.

<sup>1</sup> This manual is to be used by the fellows who have a school creamery and give a course in butter.

**Rural law:**

Law for the American Farmer. Macmillan Co.

**Farm bookkeeping:**

Bexell and Nichols. American Book Co. The correspondence course at State College.

**Farm management:**

Farm management. Andrew Boss. Orange Judd Co., New York.

**AGRICULTURAL LAW BOOKS.**

1. Law for the American Farmer. John B. Green. Macmillan Co., New York.
2. Commercial Law. Tiffany's Handbook on Law of Sales. West Publishing Co., St. Paul, Minn.  
This last company publishes any law books that may be desired.

**SHORT OUTLINE OF COURSE GIVEN HERE.**

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| <ol style="list-style-type: none"> <li>1. Division of law.</li> <li>2. Courts—the classification of courts.</li> <li>3. Property—kinds of property. (Important.)</li> <li>4. Deeds. (Important.)</li> <li>5. Mortgages. (Important.)</li> <li>6. Boundaries.</li> </ol> | <ol style="list-style-type: none"> <li>7. Fixtures.</li> <li>8. Express licenses—trespass etc.</li> <li>9. Relation of landlord to tenant.</li> <li>10. Sales, on shipment, etc.</li> <li>11. Warranties.</li> </ol> |
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**VERMONT.**

According to Prof. F. B. Jenks, of the University of Vermont, "the State has been fortunate in that there have been no compulsory laws such as has been passed in a number of States requiring the teaching of agriculture in every school without first allowing time for the teachers to prepare for it." A great many schools in Vermont are now making some attempt to teach agriculture and with varying degrees of success. The development along this line in the high schools and academics has been quite rapid. In 1913-14 there were only 4 schools employing a specially trained agricultural teacher. In 1914-15 there were 9; in 1915-16 there were 15, and during the present year (1916-17) there are 23.

**LEGISLATION.**

An act of 1912 provided for State aid for the teaching of agriculture, domestic economy, and manual training in the following manner:

A town maintaining a high school of the first class may provide for and maintain courses or departments in manual training, domestic economy, or agriculture, with special instructors therefor, and if such courses or departments have been submitted to and approved by the State board of education, and if, for instruction in any of these courses or departments in a school year, not less than \$600 has been paid in salaries, \* \* \* the auditor of accounts, on certificate of the State board of education, shall draw an order for \$200 for each course or department so maintained.

In the fall of 1912 four schools offered courses in agriculture under this act. The act also provides that the school boards in the various towns in a supervision union may unite to employ such special instructors under the same conditions as the individual town. At the present time, however, no such union has been formed.

An act of 1915, which provided for the establishment of junior and senior high schools, has made possible a more rapid and more ex-

tended advancement in the teaching of agriculture, although it provides no specific sum for this purpose. The following excerpts give the main features of this act:

#### CLASSIFICATION OF JUNIOR AND SENIOR HIGH SCHOOLS.

The State board of education may, with the approval of the directors in the towns concerned, divide the secondary schools of the State, now existing or hereinafter to be established, into two classes: (a) Junior high schools, having a four-year course; and (b) senior high schools, having a six-year course.

#### JUNIOR HIGH SCHOOLS.

*Maintenance.*—A junior high school may be maintained in any town, unless by arrangement an academy in a town is in effect made the public school thereof, where the number of secondary school pupils to be conveniently accommodated shall reasonably warrant it; but no academy shall be regarded as the public high school of a town, except upon the approval of the State board of education.

*Courses.*—Each junior high school shall have a four-year course, flexible in character, designed for the instruction of pupils who have completed an elementary course of not less than six years, and suitable to the number and needs of local pupils; and the State board of education shall arrange for a course of study, including vocational opportunities appropriate to the needs of the pupils in the several communities. In any town where a junior high school is established the State board of education shall make the necessary readjustment of the course of study in the elementary schools.

#### SENIOR HIGH SCHOOLS.

*Establishment.*—Wherever necessity requires and the school directors approve there may be as many central and readily accessible senior high schools, articulating directly with all neighboring junior high schools, as the number of pupils desiring the advanced instruction given only in this class of schools shall reasonably demand. The number and location of such schools, and the regions to be served thereby, shall be determined by the State board of education, and said board may designate an academy as a senior high school.

*Courses.*—Each senior high school shall have (a) a four-year junior course of study as in the junior high school, and (b) a two-year senior course of study in advance of the junior course of study, appropriate to the youth of 17 to 19 years of age, who are fitting for college, or are completing a course of general education, or are seeking advanced vocational education.

#### VOCATIONAL EDUCATION.

*In junior high schools.*—Junior high schools shall include, in accordance with such directions and regulations as to courses, teachers, and equipment as the State board of education may prescribe, within their courses of study a vocational course in one or two of the following subjects: Agriculture, manual arts, commercial subjects or domestic science, appropriate to the needs and environment of the particular school.

The expense of maintaining vocational courses in junior high schools shall be borne by the towns in which such schools are respectively located; and the State board of education shall annually, from the funds hereinafter appropriated, apportion such sums to reimburse the towns for such expense as will tend fairly to equalize the facilities afforded by such courses and the burden of maintaining the same, and the State board of education may provide, for use in connection with said schools and at the expense of the State, such land as may be required for suitable instruction in gardening and other appropriate study in agriculture.

*In senior high schools.*—Senior high schools shall include within their courses of study vocational courses as follows: (a) In the four-year junior division there shall be maintained in accordance with such directions and regulations as to courses, teachers, and equipment as the State board of education may prescribe, vocational courses in one or more of the following subjects: Agriculture, manual arts, commercial subjects or domestic science, appropriate for pupils from 12 to 16 years of age. (b) In the two-year senior division there shall be maintained advanced vocational courses in the subjects mentioned in subdivision (a) hereof, appropriate for pupils qualified for admission thereto, and the State board of education shall prescribe the requirements for such admission, and (c) the State board of education shall prescribe and supervise the vocational courses in senior high schools and appoint the teachers therefor.

The expense of maintaining vocational courses in senior high schools shall annually be apportioned by the State board of education between the State and the town served by such schools, and among said towns in such manner as will tend fairly to equalize the facilities afforded by such courses and the burden of maintaining the same; and the State board of education may provide, for use in connection with these said schools and at the expense of the State, such land as may be required for suitable instruction in gardening and other appropriate study in agriculture.

An act of the 1917 legislature provided for the transfer of a special school of agriculture located at Randolph, and one at Lyndonville, from the State board of agriculture to the State board of education, so that the two should now become a part of the public school system of the State and will be administered through the office of the commissioner of education.

#### QUALIFICATIONS AND DUTIES OF TEACHER OF AGRICULTURE.

1. The teacher of agriculture must be a man who is a graduate of an agricultural college or who possesses equivalent education and who has had practical farm experience sufficient to enable him to interpret local conditions.
2. He must be approved by the commissioner of education.
3. He must see that each boy carries out some home project which will cover an entire season.
4. It is strongly urged that he be engaged for the entire year, and that during the summer months he shall devote his time to the supervision of home projects, cooperating with the local county agent and the State leader in charge of boys' and girls' club work. It is further suggested that four weeks vacation be granted at such time as will least interfere with his work.

The commissioner of education of Vermont says:

The organization within the junior high schools is sufficiently flexible to meet the needs of individual communities. If boys and girls must leave school in order to become wage earners, it is essential that we provide work such as to avoid their feeling in later life that they wasted even the time they did spend in school. In the rural communities much of the boy's work will hinge about agriculture, and the girls will in turn deal with the affairs of the household. Students within these schools will receive no less instruction in arithmetic, English, and the sciences. They will, however, study with some purpose, and thus they will better understand the significance of the subjects taught. In these schools the way must be kept open for those

who will eventually go to college, but we must not close our eyes to the fact that many will never reach such institutions, and they too are entitled to the best the State can offer.

#### CURRICULUM INCLUDING AGRICULTURAL COURSE.

The agricultural course consists of four years of work and is intended to give a boy whose education ceases with the high school an opportunity to secure something of a practical nature while in school. It also gives the boy who is preparing for college an opportunity to supplement his cultural knowledge with some useful information through the election of agricultural subjects. The agricultural course occupies the same place in the school curriculum as the English or Latin courses.

During the four years of the course the student receives approximately one hour of training each day through the means of recitations, laboratory work, and field demonstrations. Home projects in agriculture are carried on by each student during the summer vacation when he applies the knowledge gained during the school year. A school demonstration plat is conducted by some of these schools.

The following course will show the agricultural subjects studied (those marked with an asterisk (\*) being required), and their place among other subjects in the curriculum, as offered at the Brandon High School:

<p style="text-align: center;"><i>First Year.</i></p> <ul style="list-style-type: none"> <li>*English.</li> <li>*Ancient history.</li> <li>Physiology and botany.</li> <li>Algebra.</li> <li>*Elements of agriculture.</li> </ul> <p style="text-align: center;"><i>Second Year.</i></p> <ul style="list-style-type: none"> <li>*English.</li> <li>*Soils and crops (fall).</li> <li>*Dairying (winter).</li> <li>*Vegetable gardening (spring).</li> <li>French, 1.</li> <li>European history.</li> <li>Physiology and botany.</li> <li>Geometry.</li> <li>German, 1.</li> </ul>	<p style="text-align: center;"><i>Third Year.</i></p> <ul style="list-style-type: none"> <li>*English.</li> <li>*Live stock (fall).</li> <li>*Feeds and feeding (winter).</li> <li>*Fruit growing (spring).</li> <li>*Chemistry.</li> <li>French, 1.</li> <li>German, 2.</li> <li>Common law.</li> <li>Geometry.</li> <li>French, 2.</li> </ul> <p style="text-align: center;"><i>Fourth Year.</i></p> <ul style="list-style-type: none"> <li>*English.</li> <li>*Farm mechanics (fall).</li> <li>*Farm management (winter and spring).</li> <li>French, 2.</li> <li>French, 3.</li> <li>*Physics.</li> <li>Common law.</li> <li>*Business English.</li> </ul>
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#### ORLEANS HIGH SCHOOL.

The agricultural course in the Orleans High School has been selected by the State board of education as a good example of the possibilities of a well-developed four-year course in agriculture in

a typical Vermont town with a population of 1,131 and an assessed valuation of \$863,960. Orleans is composed of a central village surrounded by farms. The village is prosperous and bustling and contains the types of business activities common to many Vermont towns, the lumber industry perhaps being the most important. The surrounding farming region is excellent and marks the community as primarily an agricultural one.

The problem of the school board in 1914 was not in the quality of the work done in the school, but was rather a twofold problem of a different nature. During the three years preceding, the average attendance in high school was only 35 out of a total average attendance of 232 for the same period. To increase high-school attendance and thus promote the efficiency of the whole school system was the first problem.

About 40 per cent of the high-school students have come from the districts outlying, mostly children of farmers. The old type of high school offered to these children little except courses designed to prepare for college. To offer to these boys and girls a kind of instruction which would link the school with their homes and give them a broader outlook upon life was the second problem.

Reports of the study of agriculture in other schools led the board of directors and the superintendent, Mr. E. L. Erwin, to believe that the solution of the second problem would go far toward solving the first problem; that is, to broaden the course of study and to utilize the things of common experience in the formation of this course would, it was thought, increase high-school attendance and thus increase the efficiency of the whole school system.

Steps were immediately taken to establish an agricultural course, and the superintendent of the district was instructed to engage a principal.

The school officials secured a principal trained for agricultural work and who had actual experience in organizing and putting upon a paying basis a school farm. The principal, thoroughly interested in the experiment, consented to come with the condition that he should be given free rein and at least \$1,000 to equip a school farm. He agreed to stay for at least three years. The successful outcome of the school proves the wisdom of the school board in accepting these conditions.

After the foregoing brief description of preliminary matters, it will perhaps be well to put once more concretely the purposes of the principal.

1. To make the agriculture and home economics training a part of a course which will give the pupils an insight into as many occupations as possible, and thus enable them the better to choose their life work.



2. To offer to as many boys and girls as possible an idea of agriculture as one of the elements of a broad education fitting for any profession.

3. To offer to such boys and girls as desire it a chance to learn agriculture as a profession.

4. To build up in a small high school an agriculture equipment, including a school farm, for less than \$1,000 and to make it pay its way when once established.

The work in agriculture centers around the school farm. The principal was offered by the directors his choice of two pieces of land, the one a most fertile tract of 6 acres somewhat distant from the school and the other a plat of about 2 acres, consisting mostly of swampy land directly back of the schoolhouse. The principal chose the latter plat of 2 acres because of its accessibility and because of the opportunity to improve it. Through a generous gift of part of the land by two public-spirited citizens this plat was secured and is now owned by the town as part of the school property.

The boys at once set about clearing the land of rocks, stumps, and willow bushes and finished it at an expense of \$8.25. The school board then voted \$200 for tile-draining the land. The boys borrowed surveying instruments, and with them laid out the farm, ran the lines of their draining trenches and assisted in the ditching, the laying and joining of the tile, and had a hand in every process concerned. This was finished at a cost of \$197.97.

A plan of the farm was now made from the surveys and after careful study the following divisions were decided upon as being the best arrangement for a Vermont farm: (1) Orchard, (2) forest, (3) rotation plat, (4) potato plat, (5) grass plat, (6) museum garden, and (7) kitchen garden for grades.

The orchard and nursery first claimed the attention of another class. A plat 200 by 90 feet has been set apart for the orchard. The class spent some time in studying the subject and especially in ascertaining the varieties of fruits best suited for the region. They then drew a plan of the orchard, staked out the ground, and dug the holes for the trees. The stock was ordered from a fruit nursery. It was decided to have permanent trees, and fillers, and to plant small fruits between the rows.

The class set out in the nursery all the stock which was left. In the spring the class sprayed the trees, did work in budding and grafting and replaced from the nursery all varieties which had died during the winter. This orcharding was done entirely by the boys and at a cost of \$27.80.

During the winter the class studied forestry and in the spring staked out their forest. From the Vermont State Nursery, through the kindness of the State forester, the class obtained the spruce, pine.

hemlock, and cedar trees which it had decided to plant and the forest was set out. In the spring of the next year the forestry class as an Arbor Day exercise replaced the dead trees from the nursery in the presence of all the school children of the community. The school forest was planted entirely by the boys and at a cost of \$2 for express charges on the trees.

The rotation plat was staked out and after study the following rotation of crops was determined upon: Corn, potatoes, oats, and grass for two years. The crops were planted, cultivated, and partly harvested by the boys.

A museum plat was laid out; this was divided into 38 small divisions, each containing a grain or vegetable which the pupil having charge of the same wished to study. The museum plat was simply for the purpose of investigation, and the pupils were allowed to plant in it whatever they pleased.

The remaining division of the school farm was utilized as kitchen gardens for the grades. There were four of these gardens, each 40 by 60 feet, and they were planted and cared for by the pupils of the grades under the direction of and with the assistance of the high-school students. The products were taken by the children to their homes. These kitchen gardens thus served a double purpose: First, to interest the children in the subject of agriculture, and second, to give the high-school boys an opportunity to use their training.

Much of the material raised has been given away, but some of the products of the school farm have been disposed of for money and this money turned in to the town treasury. But more important than all else, the school farm has furnished for the boys and girls of Orleans an out-of-door laboratory for the study of these things which are most closely related to the life of the average Vermont child.

A greenhouse was part of the equipment which the principal had in mind, and at his request the school board appropriated \$400 to erect one. The subject was thoroughly studied in the classroom, and complete plans for a 15 by 30 foot lean-to greenhouse were discussed and drafted by the boys. The class then listed all materials and equipment needed and secured prices on the same from local firms. After comparing prices, the material was ordered. Because of the lateness of the season, workmen from the town were engaged to erect the greenhouse, but the boys took an active part in each of the building processes—cement work, carpentry, glazing, plumbing, and wiring. The greenhouse was built adjoining a building belonging to the school, and the class prepared the old building, in which the heating plant was to be installed, by excavating, making a cement foundation for the boiler, and cutting doors and necessary openings.

The greenhouse is used as a winter laboratory. Radishes, lettuce, cucumbers, tomatoes, flowers, etc., are cultivated. Bee

culture is made a part of the course, and the equipment includes a swarm of bees. All the space in the greenhouse is utilized. Under the benches chickens are kept in coops, thus making brooders unnecessary. Experiments of various kinds are carried on in the greenhouse. Soils are analyzed, the value of various kinds of fertilizers is determined, the pollenization of plants is studied, and many other activities are taken up. The value of the greenhouse as a winter laboratory is very great.

As in the case of the farm, the products of the greenhouse are sold. **Early vegetables find a ready market among the townspeople.** Much is given away. The greenhouse is cared for by the class, and especially by one boy, who has a very attractive room near the boiler and who has charge of the heating. The total cost of the greenhouse, including all equipment, was \$448.12.

In order to study dairying in a practical way, the boys felt the need of a laboratory. It was therefore decided to equip a dairy room in the basement of the schoolhouse. Permission was secured from the school board, and \$60 was voted to defray the expense. This work, as in all other projects, was largely done by the boys, including carpentry, cement work, and plumbing. A small room was furnished and equipped as follows: Two separators (loaned by separator companies), milk cooler, churn, butter worker, cheese vat, press, and other necessary utensils, furnished by local creamery at cost.

The total cost of the dairy room, covering both building and equipment, was \$62.03.

Training in the actual manufacture of butter and cheese is given, and such other practical work as is connected with dairying.

The latest addition to the school plant is a poultry house. Much interest in poultry raising evinced itself among the boys, and it was decided to ask the school board for a poultry house. The board voted for this purpose \$75. Plans were drawn for a house 12 by 24 feet, 8 feet high in front and 4 feet high in the rear. There are two yards 12 by 60 feet, with doors from each opening into the house. The material was estimated and purchased by the boys, and the building has been entirely constructed by them. It is interesting to note that they agreed during the spring to work certain days each week and to begin the day's work at 5 a. m., and work till schooltime. Not a boy failed to be on the job promptly at the time set.

Manual training is taught not as a separate course, but in correlation with every subject. In the different projects outlined above, the best possible training in carpentry, plumbing, glazing, cement work, and repair work has been furnished. The boys of the ninth grade sold soap, and with the proceeds bought tools. They made the tomato-plant boxes for the greenhouse.

The summary of cost for the plant and equipment is as follows:

Clearing of land and plowing.....	\$8. 25
Tile draining.....	197. 97
Orchard.....	27. 80
Forest.....	2. 20
Greenhouse.....	448. 12
Dairy laboratory.....	62. 03
Poultry house (estimated).....	60. 00
Total.....	<u>806. 37</u>

Last year if the one item, coal, is omitted, the farm and greenhouse showed a profit of \$17.74 over and above all expenses.

#### ANNUAL VERMONT STATE BOYS' AND GIRLS' AGRICULTURAL AND INDUSTRIAL EXPOSITION.

The first plan for a State boys' and girls' exposition was worked out in the fall of 1914 in Windsor County by the Young Men's Christian Association, when a successful exposition was held in the Kennedy arena at Windsor, Vt. The following year, with the help of an appropriation provided by the legislature and the cooperation of various organizations and the State board of education, another very successful exposition was held in October, 1915, on the fair grounds at Rutland, Vt.

The annual convention of the State Teachers' Association of Vermont was held in Burlington during the week of the third exposition. The main object of these expositions is to arouse more general public interest in vocational education and industrial training. The plan is for such schools to use schoolroom equipment, photographs, charts, and signs, to illustrate their work and to give with groups of pupils actual classroom demonstrations of such projects as cooking, garment making, baking, canning, basketry, blacksmithing, butter making, mechanical arts, printing, carpentry work, electrical work, metal work, cement work, etc.

#### SUPERVISION.

Prior to 1916 there was no supervision of this work except what was done by the department of agricultural education in the State College of Agriculture upon its own initiative. Early in 1916, however, the following agreement was entered into with the State department of education and the College of Agriculture of the University of Vermont:

Memorandum of understanding between the State Board of Education and the State Agricultural College concerning cooperation in the promotion of the teaching of agriculture and household economy in the public schools of Vermont.

I. The State Board of Education, through its executive officer, the Commissioner of Education, invites the State Agricultural College to cooperate in the promotion of the teaching of agriculture and household economy in the public schools and to

assist in the supervision of (a) junior high schools, (b) agriculture and household economy in all other high schools, and (c) organization and encouragement of boys' and girls' agricultural and home-makers' clubs and promotion of exhibits of products of such clubs.

II. The State Agricultural College accepts the invitation of the State Board of Education to cooperate in the ways above mentioned and agrees through the department of agricultural education to assist in the supervision of high-school work to the following extent: One man to devote one-half of his time and as soon as practicable one woman to devote one-half of her time to the work above mentioned under (a) and (b). It agrees through the agricultural extension service to assign one man to devote all his time to the work above mentioned under (c):

III. All representatives of the State Agricultural College who assist in the supervision or other cooperative work shall report to the Commissioner of Education as occasion demands, and a written report shall be presented to the State Commissioner of Education at the close of the school year, setting forth work attempted and accomplished, together with recommendations.

(Signed)

J. L. HILLS, *Dean.*

MASON S. STONE, *Commissioner of Education.*

Several visits are made to each school during the year, the visits varying from one to several days in length, as conditions warrant.

The teachers are urged to keep in close touch, not only with the central office, but with each other through correspondence and personal visitation. A circular letter is sent to each school about once a month which includes reports of the most successful work accomplished. Reports of the visits of the supervisor are placed on file in the commissioner's office, including not only a report of conditions, but recommendations made to teachers and superintendents for improvement. Teachers are required to keep records of work attempted and results obtained.

#### EQUIPMENT.

Results are demanded, rather than equipment, and only such things as are essential to the success of this course are required. The following list is suggested, however, as a minimum need:

#### EQUIPMENT FOR AGRICULTURAL LABORATORY.

Balance, decimal milk, 1.....	\$4.00	Graduates, cone shaped (1,000 c. c.), 1.....	\$1.25
Soil containers, 6.....	6.00	Spatulas (6 inches), 6.....	2.52
Swamp (8 inches by 5½ inches), 3.....	.66	Burette (50 c. c.), 1.....	1.00
Soil thermometer, 1.....	1.40	Support, burette, 1.....	1.10
Flower pots, paper, 4 inches, 50.....	.55	Linen tape (40 feet), 1.....	.85
Flower pots, paper, 6 inches, 50.....	1.13	Magnifier, import, 6.....	2.40
Pruning shears, 6.....	2.40	Blue pencil for glass, 2.....	.34
Pruning saw, 1.....	.75	Wide mouth bottles (4-ounce), 2 dozen.....	.84
Pruning shears, 1.....	1.85	Wide mouth bottles (8-ounce), 2 dozen.....	1.20
Grafting chisel, 1.....	1.10	Chemical thermometer, 3.....	2.40
Grafting knife, 6.....	1.68	"Captain" barrel sprayer (size 632) with 25 feet hose, 8 feet extension pipe, and 2 Sim- plex nozzles. The Deming Co., Salem, Ohio, 1.....	15.00
Dividers, 5½ inches, 2.....	.60	Babcock milk tester (complete, 12 bottles). Creamery Package Co., Chicago, or Ver- mont Farm Machine Co., Bellows Falls, 1..	14.00
"Cenco" trip scale, agate bearing, 1.....	6.65		
Weights, from—5 grain to 1 kilo, 2.....	2.40		
Weights, brass in block (1 grain to 1,000), 1..	3.00		
Graduates, cylindrical (100 c. c.), 4.....	2.24		
Graduates, cone shaped (500 c. c.), 2.....	1.64		

Carpenter's tools, 1 set.....	\$4.50	Spring balances, (25 pounds), 2 pairs.....	\$0.50
Cheesecloth, 5 yards.....	.25	Rosin, 1 pound.....	
Absorbent cotton, 1 pound.....	.35	Beeswax, 1 pound.....	
Twine, 1 ball.....	.10	Tallow, 5 pounds.....	
Shears (10-inch), 3 pairs.....	.30	Lime, 10 pounds.....	
Glass Jars (telephone (1 pint), 24.....	1.70	Copper sulphate, 10 pounds.....	
Glass tumblers, 24.....	.30	Arsenate of lead, 1 pound.....	
Student-lamp chimneys, 48.....	3.00	Formaldehyde (formalin), 2 pounds.....	
Soup plates, 24.....	2.40	Corrosive sublimate tablets, 1 box.....	
Window glass (covers for plates 10 by 10 inches), 24.....	2.40	Farrington tablets, 1 box.....	
Granite-ware pans, 24.....	2.40	Washing powder, 1 box.....	
12-inch rulers, 12.....	.60	N-10 NaOH, 1 quart.....	
Garbage can, 1.....	.75	Calcium acetate, 8 ounces, for soil acidity test.	
		Phenolphthalin, 1 ounce, for soil acidity test..	

## PROFESSIONAL IMPROVEMENT.

Conferences of two days or more are held during the year, when all the teachers of agriculture get together to discuss local and State problems and methods of meeting them. Group conferences for certain districts are also called from time to time as occasion demands. One conference is held during the summer. It is planned to use students who are preparing to teach agriculture as assistants during the last half of the school year and as field workers during the summer months, thus releasing a number of the regular teachers during the summer months each year in order that they may attend summer sessions.

## SOME FEATURES OF AGRICULTURAL INSTRUCTION IN HIGH SCHOOLS.

*Jeffersonville (Vt.) Junior High School.*—A plat of ground at the rear of the school is being used as a kitchen garden, and an attempt is being made to see how much and how many different kinds of vegetables may be grown in a year, and the products are used in the home economics class in canning and for school lunches later in the season. The boys in manual training will get practical experience in constructing cold frames at the rear of the school building. These cold frames will be used in getting plants started early for the kitchen garden.

A group of first, second, and third year students in agriculture got practical experience in gardening under the direction of the agricultural teacher on a vacant lot, and the summer care of this garden was attended to by the owner of the land. These students were able to grow profitably beets, carrots, swiss chard, as well as other vegetables, some of which were canned and others stored to be used for school lunches during the winter term.

A free trip to Burlington in order to attend the Annual Vermont State Boys' and Girls' Agricultural and Industrial Exposition was offered as a prize by the principal to the boy in the first and second year agriculture who would grow the largest amount of tomatoes from six plants.

The agricultural teacher, who is also principal of the school, has rendered valuable service to the community, which is largely interested in dairying, by furnishing through the local paper current information on agriculture to the farmers, and also by using as laboratory work for the students in agriculture milk testing of dairy herds in the community. Agriculture is a required subject in this school.

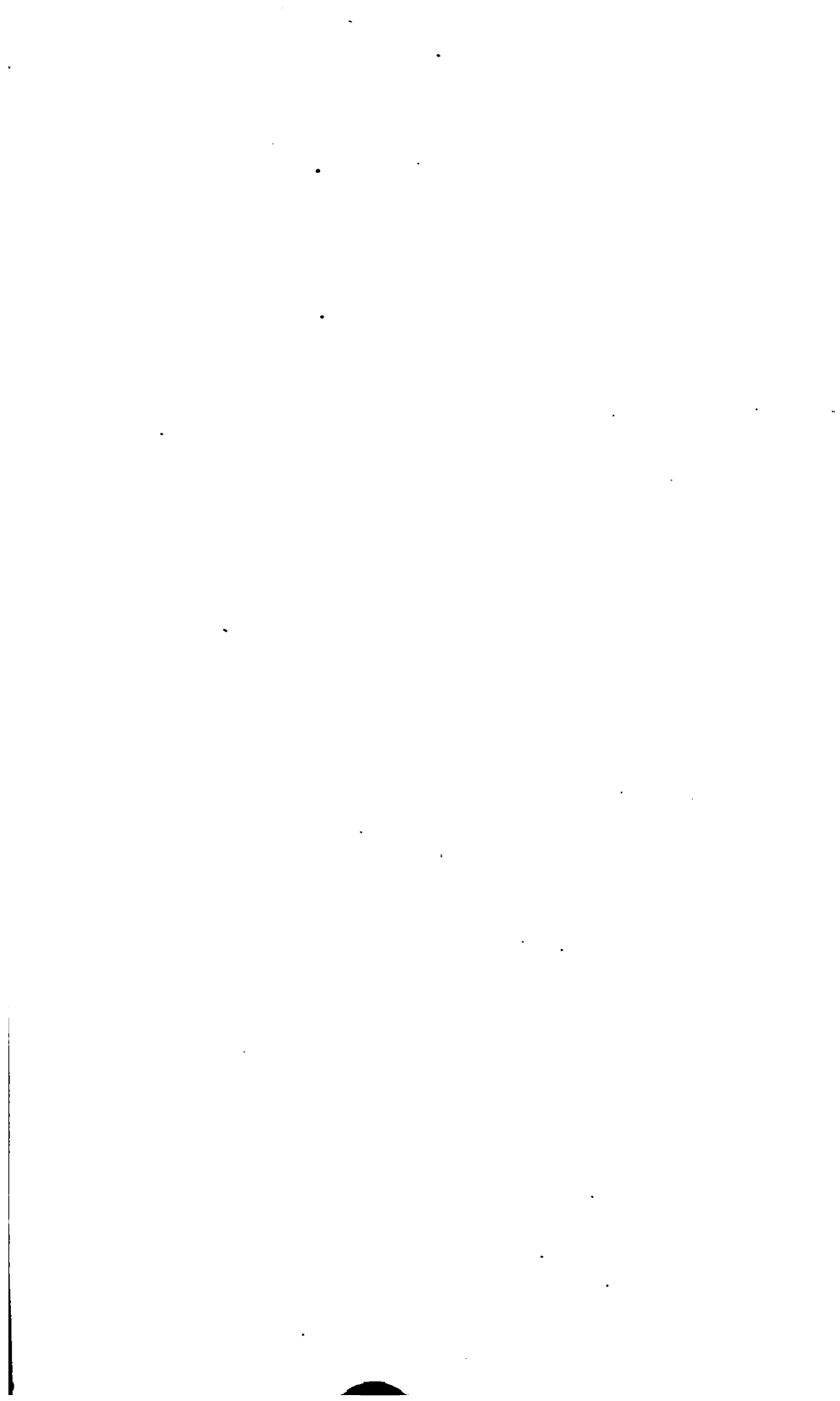
*Brandon (Vt.) High School.*—One acre of land is used for a demonstration garden, and the class in horticulture keeps in proper shape a young orchard. For practice in connection with the animal husbandry work, 10 boys took 10 cows each, weighed and tested the milk, weighed and made rations for two months, February and March, and thus determined for the farmers those cows that were profitable. As a result of this relationship between the school and the farmers of the community, several farmers have purchased scales and are weighing and testing their own milk.

One feature of the work in animal husbandry is the practice followed by the teacher in assigning to a student in the class the problem of selling a horse, cow, or hog to the other members of his class. It is very evident at a glance that such a method of instruction makes the work in animal husbandry very real, concrete, and practical. A similar method of procedure is followed in connection with the instruction in farm management wherein boys are assigned the problem of selling a farm in the community to the other members of the class. Such a sale involves a knowledge not only of the soil and its productive capacity, but also a knowledge of the relationship between crop and live stock production and the marketing of these products. Here, again, is given the boys in farm management a problem which involves a very searching review of all they have learned, and more, too, in the three years previous in soils, farm crops, horticulture, animal husbandry, dairying, farm mechanics, and rural economics.

The school and home project work of this and other schools of the State is closely correlated with the club project work of the extension division of the State College of Agriculture. This division furnishes to the agricultural teacher follow-up material on market garden projects, potato projects, corn projects, poultry projects, pig club projects, and farm and home handicraft projects.

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DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 4

MONTHLY RECORD  
OF CURRENT EDUCATIONAL  
PUBLICATIONS

FEBRUARY, 1918



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

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**CONTENTS.**—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—Scientific research—School administration—School management—School architecture—School hygiene and sanitation—Physical training—Social aspects of education—Play and playgrounds—Child welfare—Moral education—Religious education—Manual and vocational training—Vocational guidance—Agricultural education; Home economics—Professional education—Reeducation of war invalids—Education of women—Exceptional children—Education extension—Libraries and reading—New periodicals.

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## NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of its publication.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

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## PROCEEDINGS OF ASSOCIATIONS.

1. National education association. Proceedings, 1917. Journal of the National education association, 2 : 1-312, September-December 1917.

### *General Sessions.*

Contains: 1. R. J. Aley: Cooperation in education, p. 30-34. 2. Sara H. Fahey: How the public school can foster the American ideal of patriotism, p. 46-55. 3. J. H. Ackerman: The normal school as an agency for teaching patriotism, p. 55-60. 4. Mrs. Alexander Thompson: Preparedness—a veneer or a fundamental—which will our schools give our children? p. 66-71. 5. Anna L. Force: The public school the laboratory for citizenship, p. 71-74. 6. Julia C. Lathrop: Shall this country economize for or against its children? p. 74-78. 7. F. E. Bolton: Maintenance of standards in all schools as a necessary element of preparedness, p. 80-86. 8. A. W. Dow: Art teaching in the nation's service, p. 89-94. 9. Ella F. Young: American education and the inner life, p. 97-103. 10. Caroline Hedger: Cost of the inadequate night school, p. 103-5. 11. C. E. Rugh: Religious education as a means of national preparedness, p. 106-9. 12. W. J. Kerr: Education and the world-war, p. 109-17. 13. P. L. Campbell: The university and the nation's ideals, p. 117-30. 14. E. O. Sisson: National education and world-polity, p. 120-26.

*National Council of Education.*

15. R. H. Wilson: How the school may help increase food production, p. 129-31. 16. C. H. Dempsey: Adaptation of courses in domestic economy and industrial arts to meet existing demands, p. 141-43. 17. S. W. Straus: Thrift, a patriotic necessity, p. 143-47. 18. A. H. Chamberlain: Agricultural preparedness and food conservation: A study in thrift, p. 150-60. 19. H. H. Seerley: The obligations and the opportunities of the schools during the war, p. 161-63. 20. Margaret S. McNaught: The elementary school during the war, p. 163-65. *Kansas City meeting*—21. W. B. Owen: A constructive policy for the National council of education, p. 170-76. 22. W. E. Wirt: The control of educational progress through school administration, p. 176-83. 23. L. D. Coffman: The control of educational progress through school supervision, p. 184-91. 24. J. L. Meriam: The control of educational progress through educational experimentation, p. 191-98. 25. W. C. Bagley: The control of educational progress through professional preparation, p. 198-206. 26. C. G. Pearce: The direction of educational progress through professional organization, p. 205-7. 27. T. D. Wood: Report of committee on health problems in education, p. 207-9. 28. A. D. Youm: Report on common characteristics of efficient courses of study, p. 210-11; Discussion, p. 211-16.

*Department of Elementary Education.*

29. Lydia H. Hodge: Why a visiting teacher? p. 219-22. 30. Adelaide S. Baylor: Rural education as an element in the strength of the nation, p. 222-26. 31. L. R. Alderman: The public school and the nation in 1917, p. 226-29. 32. Mary D. Bradford: The democratic trend in school administration, p. 230-34. 33. Susan M. Dorsey: Supervision as liberating the teacher, p. 235-39. 34. Margaret S. McNaught: The enfranchised woman teacher; her opportunity, p. 240-45. 35. Horace Ellis: The democratic significance of recent educational movements in the community, p. 245-47.

*Department of Secondary Education.*

36. G. C. Jensen: The conservation of the student, p. 250-54. 37. Elizabeth Rowell: The girl problem in the high school, p. 254-58. 38. W. Q. Osburn: The evening high school, its needs and possibilities, p. 258-61. 39. A. C. Baker: The intermediate school or junior high school, p. 262-67. 40. C. R. Fraser: The junior college, p. 267-70. 41. Ethel P. Andrus: Education through socialization, p. 271-77. 42. E. O. Sisson: Orienting the high school, p. 278-80.

*Department of Higher Education.*

43. E. C. Elliott: Administrative responsibility and the current doctrines of academic freedom and academic tenure, p. 286-88. 44. C. R. Van Hise: War measures of higher educational institutions, p. 289-92. 45. J. W. Crabtree: Educational institutions, p. 292-95. 46. J. A. Widsøe: The four-quarter plan of university operation during the war and after, p. 295-300. 47. B. R. Buckingham: Critical present-day issues in administration of state higher education, p. 301.

## EDUCATIONAL HISTORY AND BIOGRAPHY.

2. Moore, Ernest Carroll: Fifty years of American education, a sketch of the progress of education in the United States from 1867 to 1917. Boston, New York [etc.] Ginn and company [1917] 96 p. 12°.

Issued to commemorate the fiftieth anniversary of the establishment of the publishing house of Ginn and company.

3. Swift, Fletcher H. Hebrew education during the pre-exilic period. Open court, 31 : 725-40, December 1917.

First of a series of articles on the history of ancient Hebrew education, which will make use of the most recent results of critical scholarship bearing upon this field.

## CURRENT EDUCATIONAL CONDITIONS.

*United States.*

4. Avent, Joseph B. The present educational situation in Virginia. Virginia journal of education, 11 : 217-20, January 1918.

An address delivered at the State educational conference, Roanoke, Va.

A comparison of the educational situation in urban and rural communities of Virginia. A plea for equal opportunity for all the children.

5. Baker, Thomas S. Education and the war. Kansas teacher, 6 : 7-9, January 1918.

Some of the tasks that fall upon the schools in preparing the child of today for the citizen of tomorrow.

4. **Brittain, Horace L.** Report of the schools of Akron, made for the educational committee of the Akron chamber of commerce . . . July 1917. [Akron, Ohio, 1917] 234 p. illus. plates (2 fold.) tables, diags. 12°.
7. **Corson, O. T.** Teach the truth about Germany. Ohio educational monthly, 67 : 32-35, January 1918.  
Says that pupils in the public schools should be taught the truth about the beginning of the war, the invasion of Belgium, the German spy system, etc.
8. **Davis, W. A.** The teacher's opportunity for service. Texas school journal, 35 : 21-22, 24, January 1918. -  
A paper read before the Brady, Texas, institute by the secretary of the Texas state board of health. Emphasizes the teacher's opportunity of safeguarding the health and morals of the children of today who are to be the men of tomorrow. Says that this is the golden opportunity for the teaching profession to render a service to mankind.
9. **Dewey, John.** Public education on trial. New republic, 13 : 245-47, December 29, 1917.  
Discusses the New York school situation, by reviewing the matter as "a culmination of the established and traditional relationship of official superiors and inferiors in the school system, and as evidence of a sharp clash between two opposed social and educational philosophers."
10. **Dunney, Joseph A.** Democracy, idealism, and education. Catholic educational review, 15 : 12-29, January 1918.  
Paper read at the 31st annual convention of the Association of colleges and preparatory schools of the middle states and Maryland, November 30, 1917.
11. **Hopper, Arthur F.** America's patriotic juniors. Industrial-arts magazine, 7 : 1-3, January 1918. illus.  
What the schools of Plainfield, N. J., are doing to aid Uncle Sam.
12. **Lugg, C. H.** [The schools and the war.] Associate teacher, 18 : 6-8, January 1918.  
An abstract of the state superintendent's annual address before the South Dakota educational association.  
Says our second line of defense is our American school, which is being weakened by the annulment of child labor laws and by the resignation of qualified teachers from the schools. Urges teachers to show their patriotism by staying with the schools.
13. **McCain, H. P.** "Slouchiness." West Virginia school journal and educator, 46 : 266-70, January 1918.  
A circular letter sent out by the Adjutant General of the War Department, criticising the American schools and colleges is followed by a number of thoughtful and interesting comments by some of the leading educators of West Virginia.
14. **O'Shea, M. V.** Comments on the war and schools. Wisconsin journal of education, 49 : 273-76, December 1917.
15. **Wagner, Jonathan H.** Schools to win the war. New Mexico journal of education, 14 : 4-6, December 1917.  
Address at the New Mexico educational association convention.
16. **West, Andrew F.** Our educational birthright. Princeton alumni weekly, 18 : 296-98, January 9, 1918.  
Also in School and society, 7 : 61-66, January 19, 1918.  
An address at the meeting of the Pennsylvania state educational association, held at Johnstown, Pa., December 29, 1917.
17. **Wilson, R. H.** Educational efficiency. Oklahoma home and school herald, 26 : 7-8, January 1918.  
Address delivered before Oklahoma education association, Oklahoma City, November 29, 1917, by the state superintendent of education.

*Foreign Countries.*

18. **Alexander, Thomas.** The Prussian elementary schools. New York, The Macmillan company, 1918. 571 p. 8°.  
A study of the Prussian elementary schools made during the year and a half preceding the outbreak of the great war. The writer believes that the study shows that the whole scheme of Prussian elementary education is shaped with the express purpose of making 95 out of every 100 citizens subservient to the ruling house and to the state.
19. **Crewe, Marquis of.** The education bill. Contemporary review, 112 : 601-9, December 1917.  
A discussion of Mr. Fisher's educational bill, England.
20. **Hersent, Georges.** La réforme de l'éducation nationale. Paris, Hachette et cie., 1917. 4, 103 p. 8°.  
Says that in France there should be more physical culture in educational programs, and more emphasis laid on the training of will power. Much greater attention should be given to technical instruction.  
Reviewed by A. Darlu in Revue politique et parlementaire, 93 : 65-70, October 1917.
21. **Lanux, Pierre de.** Young France and new America. New York, The Macmillan company, 1917. 153 p. 12°.  
The reflections of a Frenchman who spent the year 1917 in America. The purpose is to define and sum up the possibilities which Franco-American relations will offer to-morrow as well on intellectual as on concrete grounds.  
Reviewed by Van Wyck Brooks in the Dial, 64 : 47-50, January 17, 1918.
22. **Ponsonby, Arthur.** Reconstruction and the individual. Contemporary review, 112 : 664-73, December 1917.  
Discusses among other things education and ethics. Influences at work in England.
23. **Wagner, Charles.** The war and the child. American journal of school hygiene, 1 : 177-83, December 1917.  
Discours at the *Matinée nationale* November 19, 1916, at the Grand Amphithéâtre of the Sorbonne. Translated by Lawrence Augustus Averil.
24. **The war and the schools.** Schoolmaster, 92 : 571, November 24, 1917.  
A significant brief article giving figures showing the effect of war conditions on school efficiency in London, England.
25. **Williams, L. A.** German ideals revealed in criticisms of American education. High school journal, 1 : 11-14, January 1918.  
German ideals of education as set forth in the reports made by the German delegates to the International educational congress, held in 1893 in connection with the World's Columbian exposition. Offers an opportunity of comparison of German ideals 25 years ago with present day revelations of German thought and policy.

## EDUCATIONAL THEORY AND PRACTICE.

26. **Boston.** Special class teachers. The Boston way; plans for the development of the individual child. Concord, N. H., The Rumford press [1917] 127 p. illus. 8°.
27. **Bricker, Garland A.** Education through the rural industries. Progressive teacher, 24 : 30-31, January 1918.  
Also in School education, 37 : 6-8, January 1918.  
Shows how the rural industries afford innumerable opportunities in the various aspects of the educative process, such as apperception, interest, observation, habit formation, etc.
28. **Davidson, Percy E.** Concerning mental discipline and educational reform. School and society, 7 : 1-8, January 5, 1918.  
A discussion of the ideas of Mr. Flexner and his critics regarding formal discipline, mental discipline, general discipline, etc. The writer is in favor of the "new pedagogical science."
29. **Randolph, L. S.** Character and fitness in education. Educational review, 55 : 1-10, January 1918.  
Says that pedagogical methods should be adapted to the mental peculiarities or weaknesses of the student.

## EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

30. **Chabot, Charles.** L'effort et l'intérêt. *Revue pédagogique*, 71 : 445-66, November 1917.  
Second article in series.
31. **Ijams, E. H.** Present-day psychology and something of the light it sheds upon educational procedure. *Educational exchange*, 32 : 3-4, 28, December 1917.
32. **Young, J. W. A.** Concerning experiments to test the transfer of training. *School science and mathematics*, 18 : 1-10, January 1918.  
Written from the point of view of a worker in mathematics.

## EDUCATIONAL TESTS AND MEASUREMENTS.

33. **Doll, Edgar A.** A brief Binet-Simon scale. *Psychological clinic*, 11 : 197-211, 254-61, December 15, 1917; January 15, 1918.  
The substance of sections I and III of this paper were presented in abstract before Section L of the American association for the advancement of science under title of "A brief scale for rapid Binet-Simon examining," at New York, December 1916.
34. **Hanus, Paul H. and Gaylord, Harry D.** Curtis arithmetic tests applied to employees in business houses. *Educational administration and supervision*, 3 : 505-20, November 1917.  
The results of a test applied to 446 employees of one of the largest trust companies and one of the largest department stores in Boston.
35. **Lackey, E. E.** Measuring the ability of children in geography. *Journal of geography*, 16 : 184-88, January 1918.  
Range of subject-matter covered by the tests, some uses of the scale, etc.
36. **Monroe, Walter S.** The ability to place the decimal point in division. *Elementary school journal*, 18 : 287-93, December 1917.  
Gives a series of tests. Says that lists which are not based upon analysis of the field of subject-matter can not be effective instruments for educational diagnosis; but that tests founded on the scientific analysis of abilities can furnish a valuable diagnosis which can be helpful to the teacher in formulating her plans for instruction.
37. **Priestley, John.** The Binet and Simon tests and the investigation of mental defects in children. *Child (London)* 8 : 132-36, December 1917.
38. **Wallin, J. E. Wallace.** Wide range vs. narrow range Binet-Simon testing. *Journal of delinquency*, 2 : 315-30, November 1917.  
Study based on 1,181 cases, examined between September 1914 and December 1916, in the psychoeducational clinic connected with the public schools of St. Louis, Mo.

## SPECIAL METHODS OF INSTRUCTION.

39. **Dench, Ernest A.** Motion picture education. Cincinnati, Standard publishing company [1917]. 353 p. 12°.  
The value of motion pictures in teaching the various subjects of the curriculum, together with some simple directions for producing photoplays.
40. **Eesenwein, Joseph Berg.** Children's stories and how to tell them, by J. Berg Eesenwein . . . and Marietta Stockard . . . Springfield, Mass., The Home correspondence school [1917]. xiv, 352 p. 12°. (The writer's library, ed. by J. B. Eesenwein.)  
"Reading and reference lists" : p. [329]-342.
41. Use of the "movies" in education. *National association of corporation schools bulletin*, 5 : 9-17, January 1918.  
"This is a special article in which an effort has been made to condense all available information regarding the utility and purposes of moving pictures in instruction along industrial educational lines and also for publicity purposes."

42. **Watkins, Ruth.** Utilizing play instincts in classes. *Indiana instructor*, 2 : 11-14, January 1918.  
Games that have been found useful in making Latin interesting to high school pupils.
43. **Whitacre, H. J.** Motion pictures: their effect on school children and their value as a means of instruction. *Atlantic educational journal*, 13 : 189-99, December 1917.
44. **Wright, Ruth.** The socialized recitation. *Atlantic educational journal*, 13 : 175-81, December 1917.  
A socialized recitation in geography.

## SPECIAL SUBJECTS OF CURRICULUM.

45. **Abernethy, J. W.** Why not teach pronunciation? *School and society*, 7 : 43-47, January 12, 1918.  
Thinks that more attention should be paid to the blunders made in pronouncing common words of daily conversation. Says that as much time should be spent on correcting errors in conversation as errors in spelling.
46. **Ballard, P. B.** How to write with the left hand. *School world*, 19 : 404-7, December 1917; 20 : 16-19, January, 1918.  
Discusses the characteristics of left-handed script. Gives specimens of handwriting. To be continued.
47. **Bennett, Faye.** Translation study and immediate study of German, a comparison. *Modern language journal*, 2 : 114-31, December 1917.  
An experiment to determine which of two methods of study is the more economical in acquiring the meaning of German words.
48. **Betz, William.** The teaching of mathematics in the junior high school. *Mathematics teacher*, 10 : 58-84, December 1917.  
References to recent literature, p. 84.  
A discussion of the Rochester plan.
49. **Brown, Robert M.** Geography in practise and in theory. *Educational review*, 55 : 30-40, January 1918.  
A study based on a large number of examination questions from the cities of the United States.
50. **Browne, Henry.** Our renaissance; essays on the reform and revival of classical studies. With a preface by Frederic G. Kenyon. New York, London [etc.] Longmans, Green & co., 1917. xvi, 281 p. 8°.
51. **Cody, Sherwin.** New scientific method of teaching English. *American penman*, 35 : 172-73, January 1918.  
The first of a series of articles which will present the whole method, including the "minimum essentials test" and the model series of tests, with key and directions.
52. **Collins, L. R.** Teaching how to study chemistry. *Education*, 38 : 394-400, January 1918.  
Emphasizes the value of laboratory work; supervision by the instructor of the study-period, etc.
53. **Cross, Allen.** Staples of grammar and composition. *Elementary school journal*, 18 : 253-63, December 1917.  
Discusses the relative merits of the functional method of teaching grammar, and the grammar based on errors. Says that the former is both corrective and constructive—first teaching the child to think clearly and then supplying the deficiencies apparent in his machinery of expression.
54. **Dodge, Richard E.** Humanizing school geography. *Journal of geography*, 16 : 161-66, January 1918.
55. **Dougherty, Mary L.** History of the teaching of handwriting in America. *Elementary school journal*, 18 : 280-86, December 1917.  
Describes the dominating influence or interest of five periods: Colonial period, 1600-1800; Transition period, 1800-1850; Period of independent elaboration of American systems, 1850-1890; Vertical-writing movement, 1890-1900; Combination of commercial and scientific influences, 1900-1916.  
Bibliography: p. 286.



56. **Farnum, Royal B.** Interior decoration practised. *School-arts magazine*, 17: 194-98, January 1918. illus.  
The teaching of interior decoration to the boys and girls in the public schools.
57. **Foerster, Norman.** Relating the English course to the world crisis. *High school journal*, 1 : 3-5, January 1918.  
American literature and the world crisis.
58. **Harding, Samuel B.** Topical outline of the war. *History teacher's magazine*, 9 : 30-62, January 1918.  
Prepared in cooperation with the National board for historical service and the Committee on public information.  
Also separately reprinted under title: *The study of the great war—a topical outline with copious quotations and reading references.*
59. **Hathaway, W. H.** A course in socialized high school civics. *School review*, 25 : 731-43, December 1917.  
Civics course in Riverside high school, Milwaukee, Wis. Gives bibliographies.
60. **Henderson, Bertha and others.** An outline of the course in geography in the University elementary school. *Elementary school journal*, 18 : 268-79, December 1917.  
Fourth article of series. Discusses Australia.
61. **Herson, O.** Psychology and the high school curriculum. *Educational foundations*, 29 : 218-23, December 1917.  
This discussion will be continued in a subsequent number and conclude with a classified bibliography.  
The value of psychology as a high school subject.
62. **Hill, Howard C.** The war and the teaching of history. *History teacher's magazine*, 9 : 10-13, January 1918.  
Paper read before the Wisconsin history teachers' association, Milwaukee, Wis., November 1, 1917.
63. **Keith, Eliza D.** To teach or not to teach grammar. *Western journal of education*, 23 : 4-5, December 1917.  
The need of grammar in the lower grades.
64. **Leathes, Stanley.** Why should we learn French? *Parents' review* (London) 28 : 747-58, December 1917.  
The value of French literature in English education.
65. **Martonne, Emmanuel de.** L'enseignement géographique aux États-unis. *Revue internationale de l'enseignement*, 37 : 422-33, November-December, 1917.  
The writer, who is professor of geography in the University of Paris, gives the results of his observations in America while visiting French professor at Columbia university.
66. **Minot, Elizabeth.** Why? and why. *American education*, 21 : 252-56, January 1918.  
Why we want our children to learn to speak one or more foreign tongues.
67. **Mitchell, Howard.** Supervised study of modern languages. *Education*, 38 : 385-87, January 1918.
68. **National council of teachers of English. Committee on American speech.** Three articles. 1917. 8p. 4°.  
CONTENTS: C. L. Lewis: English for use.—Clarence Stratton: Diversity of language prevents national solidarity.—Clarence Stratton: Urmuricun or American?  
The first article was an address delivered before the New York association of teachers of English and the Detroit English club, the second article is reprinted from the *Christian science monitor*, and the third article from the *New York times*.
69. **New York city association of teachers of English.** Report of committee on spelling. [*New York, The Richmond Hill record*, 1917] 15p. 12°. (*Bulletin XVIII*, February, 1917.)

70. **Norris, Orland O.** To a young Latin student "from Missouri." *American schoolmaster*, 10 : 446-63, December 15, 1917.  
Discusses the value of studying Latin.
71. **Randall, D. P., Chapman, J. C. and Sutton, C. W.** The place of the numerical problem in high school physics. *School review*, 26 : 39-43, January 1918.  
Results of a simple test in mechanics applied to 238 pupils in four typical high schools in a city system representative of distinctly progressive educational methods.
72. **Reavis, W. C.** The social motive in the teaching of arithmetic. *Elementary school journal*, 18 : 264-67, December 1917.  
Describes a plan of teaching stocks and bonds to an eighth-grade class. A mock bank was organized, in which each member of the class of the Pierre Laclède school (St. Louis, Mo.) became a stockholder.
73. **Riley, C. F. Curtis.** The teaching of elementary zoology. *School and society*, 7 : 31-37, January 12, 1918.  
Revitalizing the teaching of zoology in secondary schools.
74. **Seashore, Carl E.** Avocational guidance in music. *Journal of applied psychology*, 1 : 342-48, December 1917.  
Describes a series of tests used by the University of Iowa; adapted to constitute an integral part of the musical instruction in the fifth grade.
75. **Sheridan, Bernard M.** Speaking and writing English; a course of study for the eight grades of the elementary school, with practical suggestions for teaching composition and a full set of composition standards. (Chicago, New York [etc.] B. H. Sanborn & co., 1917. 162 p. 12°.
76. Timely suggestions for secondary school history. Prepared under the direction of four committees of historians in cooperation with the National board for historical service. *History teacher's magazine*, 9 : 14-21, January 1918.  
I. The study of the Roman republic to-day.—II. Points for emphasis in English history from 1688-1815.—III. The power of ideals in history.—IV. The United States and world politics, 1793-1815.
77. **Traner, Fred W.** Socializing the study of history. *School review*, 25 : 714-21, December 1917.  
Presents the history-method course developed during the past two years at the Nevada state normal school. Criticizes the chronological method of teaching history. The course is based upon the aim of education as adjustment to the social environment, or "social efficiency."
78. **Violette, E. M.** The history teacher and the present war. *Missouri school journal*, 34 : 400-406, November 1917.
79. **Walsh, C. B.** A tentative program of junior high-school mathematics. *Mathematics teacher*, 10 : 85-93, December 1917.  
Read at the convention of the Association of teachers of mathematics in the middle states and Maryland, Trenton, N. J., April 28, 1917.
80. **Waxman, Samuel M.** A jeremiad on modern language teaching. *Modern language journal*, 2 : 95-101, December 1917.  
An address delivered to the Modern language teachers of Plymouth county, Mass.
81. **Wilkins, Lawrence A.** Fallacies that exist in the teaching of Spanish. *Bulletin of high points in the teaching of modern languages in the high schools of New York city*, 7 : 5-11, December 1917.
82. **Wilson, H. B.** Guiding principles in American history teaching. *School and home education*, 37 : 102-7, January 1918.  
Says that the remaking of our history texts and the redirection of our history teaching is one of the most noticeable by-products thus far of the great war.

## KINDERGARTEN AND PRIMARY SCHOOL.

3. **Brady, Mattie C.** The derivation of the Montessori didactic apparatus. Elementary school journal, 18 : 294-300, December 1917.
4. **Cady, Calvin B.** The music needs of the little child. Kindergarten and first grade, 3 : 16-21, January 1918.

## RURAL EDUCATION.

5. **Averill, Lawrence A.** Rural school supervision in New England. Education, 38 : 361-73, January 1918.  
Advocates placing more authority in the hands of the superintendent. Says that compulsory supervision laws are "the goal toward which each state in the New England group is now rapidly moving."
6. **Challman, S. A.** What consolidation of rural schools means to the children and to the people of the country in equipment, including buildings, playgrounds, apparatus, and demonstration farm. American school, 3 : 363-65, December 1917.
7. Rural education. Athenæum (London) no. 4623 : 570-73, November 1917; no. 4624 : 645-47, December, 1917.  
Second paper of the series; deals with buildings, equipment, and staffing of rural elementary schools. Third paper takes up Central and continuation schools.
8. **Stoltzfus, Amanda.** Beginning and developing a rural school . . . Austin, Tex., The University, 1917. 60 p. 12°. (University of Texas bulletin, no. 1729: May 20, 1917.)

## SECONDARY EDUCATION.

9. **Aley, Robert J.** The war and secondary schools. School and society, 6 : 751-55, December 29, 1917.  
Also in American school, 3 : 360-61, December 1917.  
Address before the New England association of colleges and secondary schools.  
Says the world war has increased the importance and enlarged the opportunity of the secondary school. The school should speed up and intensify the work in the curricula of established and proven value.
10. **Gilday, Walter H.** The traditional break between the grades and the high school. Journal of education, 86 : 655-56, December 27, 1917.  
From the Brockton school helper.  
The advantages of the junior high school.
11. **Liddeke, Frederick.** The unification of secondary education in the greater high school. North Carolina high school bulletin, 8 : 174-84, October 1917.  
The salient defects in our secondary education and how they may be greatly eliminated. Suggests a secondary plan covering nine years, in three-year cycles, following after the fifth grade.
12. **Lull, Herbert G.** The social core of the high school curriculum. School review, 26 : 7-17, January 1918.  
Says that the "constants of the curriculum should be only those lines of common knowledge and training which individuals of a democracy must have to live together as free and responsible citizens." Dwells on studies of a vocational character, etc.
13. **Maphis, Charles G.** First aid to high school teachers. Article III. Organization of the high school. Virginia journal of education, 11 : 197-201, January 1, 1918.  
The course of study.
14. **Meier, Laura A.** Concerning the pupil. Education, 38 : 388-93, January 1918.  
Discusses problems of the high school. Article concluded from December number.
15. **Pickell, Frank G.** Credit for quality in the Richmond (Ind.) high school. Educational administration and supervision, 3 : 533-38, November 1917.

96. **Ripman, Walter.** The adjustment of the secondary school curriculum. *School world*, 19 : 401-404, December 1917.  
A discussion of two English reports—those of the "Committee on the neglect of science," and the "Council for humanistic studies"—dealing with problems of curriculum in English secondary schools.
97. **Smith, R. B.** Democratizing a high school of eighteen hundred. *Education*, 38 : 374-79, January 1918.  
Shows how pupil self-government may be introduced into a large high school with good results.
98. **Williams, Oscar H.** Large and small high schools: a comparative study. *Educator-journal*, 18 : 233-38, January 1918.

#### TEACHERS: TRAINING AND PROFESSIONAL STATUS.

99. **Dixon, A. H.** Normal training in high schools. *University journal*, 14 : 11-15, December 1917.  
Read at the Conference on normal training, Hot Springs, Ark., November 12, 1917.
100. **Fulmer, Grace.** The ideal teacher. *Kindergarten and first grade*, 3 : 1-5, January 1918.
101. **Gray, A. A.** The educational leadership of women. *American school board journal*, 56 : 29-30, 42-44, 46-47, January 1918.  
Women in administrative work, women as teachers, the salary question, and the married woman.
102. **Hubbard, Clifford Chealey.** An inquiry into the methods by which the state normal schools are controlled. *Normal school bulletin* (Charleston, Ill.) no. 58 : 1-18, October 1, 1917.
103. **Landsittel, F. C.** Evaluation of merit in high-school teachers. *School and society*, 6 : 774-80, December 29, 1917.  
Gives a score card and its use in rating teachers in Ohio.
104. **Putnam, Mary B.** The laborer and his hire. *American schoolmaster*, 10 : 433-45, December 15, 1917.  
Discusses the various arguments that have been put forth for paying men teachers higher salaries than women teachers.

#### HIGHER EDUCATION.

105. **American association of collegiate registrars.** Proceedings of the eighth annual meeting . . . Lexington, Ky., April 25-27, 1917. Lexington, Ky., Transylvania printing co. 111 p. 8°. (E. L. Gillis, secretary-treasurer, University of Kentucky, Lexington, Ky.)  
Contains: 1. C. E. Melville: Grades: their significance in regard to faculty requirements and student accomplishments; the facts that should enter into their determination, p. 19-29. 2. Raymond Walters: The relation between high grades in colleges and success in later life, p. 37-43. 3. F. W. Nicolson: Marking systems of colleges approved by the Carnegie foundation, p. 48-53. 4. E. B. Pierce: Registration by mail, p. 66-72. 5. Ross Jewell: The interchange among registrars of statistical studies and reports—possibilities and practical recommendations, p. 72-76. 6. M. E. Marsh: Special educational needs of Appalachian America, p. 81-86. 7. A. M. Tarbell: The look forward for the registrar's office, p. 86-95.
106. **Association of American colleges.** Proceedings of the third annual meeting, Chicago, Ill., January 11-13, 1917. (Chicago, Ill., Association of American colleges, 1917. 151 p. 8°. (Association of American colleges bulletin, vol. 3, no. 3, April 1917) (Richard W. Cooper, secretary, 19 South La Salle street, Chicago, Ill.))  
Contains: 1. H. C. King: What the college stands for, p. 19-39. 2. The moral and religious life of the college [by] Silas Evans, p. 40-43; [by] J. S. Nollen, p. 43-45; [by] Laura H. Wild, p. 45-47. 3. Academic freedom and tenure of office. Report of committee, p. 48-56. 4. Study of student mortality [by] A. F. McLeod, p. 63-73; [by] E. D. Eaton, p. 73-76. 5. College campaigns and college publicity [by] J. W. Hancher, p. 77-81; [by] T. C. Howe, p. 81-87; [by] T. M. Hodgman, p. 87-89. 6. W. S. Kies: Training for world service, p. 90-105. 7. C. W. Williams: Insurance as a field for college graduates, p. 105-17. 8. Helen T. Woolley: New opportunities for college women, p. 117-31. 9. J. A. Blaisdell: Constructive criticism of the American college, p. 132-51.

107. **Baldensperger, Fernand.** The case for French scholarship. *Nation*, 106 : 37-39, January 10, 1918.  
A review of Science and learning in France, edited by J. H. Wigmore, listed in the record for December 1917, item 1908.
108. **Buckingham, B. B.** Critical present-day issues in administration of state higher education. *School and society*, 6 : 721-28, December 22, 1917.
109. **Caullery, Maurice.** French universities and American students. *Harvard graduates' magazine*, 26 : 208-20, December 1917.  
The opportunities for American students at the French universities.  
Translated by George Luther Lincoln.
110. ——— *Les universités américaines, la société et la science.* In *Association française pour l'avancement des sciences. Conférences faites en 1916-1917. Paris, Secrétariat de l'Association, 1917.* p. 191-215.  
A lecture delivered at Bordeaux March 15, 1917, describing the American system of higher education and drawing lessons therefrom for France.
111. **Ewer, Bernard C.** *College study and college life.* Boston, R. G. Badger [1917] 228 p. 12°.  
Presents mainly facts and discussions which the author has been accustomed to offer to freshmen regarding the aims and methods of college study and the various features of college life.
112. **Ferrari, Robert.** De l'avenir des relations universitaires entre la France et l'Amérique. *Revue internationale de l'enseignement*, 37: 444-52, November-December 1917.  
Reprinted from *Revue politique et parlementaire*, April 1917.
113. ——— The spirit of the French university. *Columbia alumni news*, 9 : 319-21, December 21, 1917.
114. **Kelly, Robert Lincoln.** The American college and the great war. *Scribner's magazine*, 63 : 77-83, January 1918.
115. **Lewis, E. E.** Foreign languages and mathematics as requirement for admission to, and graduation from, American colleges and universities. *School review*, 26 : 1-6, January 1918.  
An endeavor to determine the status in 1896 and in 1916 of the entrance and graduation requirements in foreign languages and mathematics. The results of the study show "a tendency toward granting one degree for all liberal studies and the elimination of specific requirements in mathematics and foreign languages both for entrance to, and graduation from, American colleges and universities."
116. **Meiklejohn, Alexander.** Freedom of the college. *Atlantic monthly*, 121: 83-89, January 1918.
117. **Mussey, Henry B.** The selective draft in college entrance. *Nation*, 106 : 11-13, January 3, 1918.  
Criticises the selective admission scheme proposed by certain college presidents. Thinks such a plan, in actual operation, would rest on a basis not primarily intellectual but social, hence tending to aloofness and snobbishness.
118. **Bavage, M. E.** The tired college man. *Century*, 95 : 376-84, January 1918.
119. **Richardson, Robert Charlwood, jr.** *West Point.* An intimate picture of the National military academy and of the life of the cadet. Foreword by Major-general Hugh L. Scott. New York and London, G. P. Putnam's sons, 1917. 354 p. plates. 12°.
120. **Thwing, Charles F.** What the college stands for. *Educational review*, 55 : 16-19, January 1918.  
Treats of the philosophy underlying higher education. Says that the college stands for universal relations: "It receives men from all parts of the earth, it sends them forth into all parts of the earth."

121. **Trofimov, M. V.** Universities and students' life in Russia. Modern language teaching (London) 13 : 137-44, October 1917.  
Gives social conditions of students' life, illustrated by statistics.
122. **Ward, Harry Parker.** The American college catalog; a book of information with suggestions for the improvement of catalogs and other publications of colleges and schools. With an introduction by W. O. Thompson, president Ohio state university. Columbus, Ohio [The Champlin printing company] 1917. xiv, 298 p. illus. 8°.

## SCIENTIFIC RESEARCH.

123. **Darrah, David.** Field work as a new educational principle. Educational review, 55 : 20-29, January 1918.  
Discusses the shortcomings of "field work" as at present conducted in educational institutions. Says that the student should in some way be made dependent for his expenses on his field work. A real remuneration should be attached to it, as there is in cooperative engineering work.  
This paper was awarded first place in the annual contest (1917) for the Tomlinson prize, at the Municipal university of Akron, Ohio.
124. **Swinton, A. A. Campbell.** Science and its functions. Nature (London) 100 : 294-98, December 1917.  
Address delivered before the Royal society of arts, England, on November 21, 1917.

## SCHOOL ADMINISTRATION.

125. **Baker, George M.** Constructive supervision. American school board journal, 56 : 19-21, 75-76, January 1918.  
To be concluded in February.  
The article comprises a brief consideration of the following points: (1) Need for supervision, (2) Function of supervision, (3) Analysis of supervisor, (4) Two classes of teachers needing special attention from the supervisor, (5) Four distinct types of criticism, (6) Four lines of supervisory activity, and (7) Need for and value of suspended judgment.
126. **Piola, F.** Le industrie della scuola. Nuova antologia, 191 : 173-87, September 1917.  
Deals with provision of educational equipment to schools and colleges in Italy.

## SCHOOL MANAGEMENT.

127. **Benezet, L. P.** A high spot in Evansville. American school, 3 : 362-63, December 1917.  
"The superintendent of the Evansville schools describes an experiment made in those schools to help pupils who are willing to make special effort, gain, or make up time."
128. **Camp, Frederick S.** Some "marks": an administrative problem. School review, 25 : 697-713, December 1917.  
A study of the system of marking in the Stamford, Conn., high school, with graphic illustrations.
129. **Cobb, C. R.** A demonstration in elasticity in grade work. Journal of education, 86 : 599-600, December 13, 1917.  
A plan for promoting pupils by subject.
130. A comparison of the accomplishments of eighth grade pupils in rural and city schools of certain Wyoming counties. Wyoming school journal, 14 : 117-22, December 1917.  
The report was written by J. N. Butterworth, chairman of the committee appointed by the Wyoming teachers' association to investigate Wyoming school problems.
131. **Fordyce, Charles.** Supervised study. University journal, 14 : 1-3, December 1917.  
Also in Nebraska teacher, 20 : 209-10, January 1918.  
Gives the results of some experiments in supervised study and shows some of the advantages.

132. **Gates, Arthur I.** Recitation as a factor in memorizing. *School and society*, 6 : 743-49, December 22, 1917.  
The relative values of learning by reading as compared to learning by recitation.
133. **Heckert, J. W.** The organization of instruction materials, with special relation to the elementary school curriculum. New York city, Teachers college, Columbia university, 1917. 107 p. 12°. (Teachers college, Columbia university. Contributions to education, no. 87.)
134. **Merriman, Eugene D.** Technique of supervised study. *School review*, 26 : 35-38, January 1918.  
Presents a program for supervised study.
135. **Pickell, Frank G. and Winkelblech, B. F.** Elimination from the public secondary schools of the United States. *School review*, 26 : 18-24, January 1918.  
Also in *Midland schools*, 32 : 149-50, January 1918.  
"A study of 11,221 'public high schools,' based upon the reports of the U. S. Commissioner of Education for the years 1912, 1913, 1914, and 1915." Statistical data.
136. **Roberts, J. E.** Breaking the lock-step. *Wisconsin journal of education*, 49 : 282-84, December 1917.  
Promotion by subject in the schools of Fond du Lac, Wis.
137. **St. John, Charles W.** The purpose of school discipline. *Current education*, 21 : 349-52, December 1917.  
This article appeared originally in the Porto Rico school review.  
The writer believes that the real purpose of school discipline is not simply to have a quiet schoolroom, but to teach the children that they must abide by the law and not do everything they feel like doing.

#### SCHOOL ARCHITECTURE.

138. **Challman, S. A.** The adaptation of the high school building to the school organization. *American school board journal*, 56 : 27-28, January 1918.  
"This paper is a revision of an address prepared originally for the Department of school administration, National education association, Portland, Oreg. It is the first study of the general problem and its great value will be readily apparent."
139. **Hughes, Harold F.** Elastic schoolhouses. *American city*, 18 : 20-21, January 1918.  
School plant units in Fresno, California, described, with illustrations. Says the writer: "We see bookcases advertised which will grow with the library, and in Fresno, Cal., the same plan is being used in building schoolhouses."

#### SCHOOL HYGIENE AND SANITATION.

140. **Gray, Horace and Gray, K. M.** Normal weight. *Boston medical and surgical journal*, 177 : 894-99, December 1917.  
Records weights of many children; one table is based on statistics of several thousand boys and girls in the Horace Mann school, Columbia university, New York city.
141. **Hurty, J. N.** Medical examination of school children. *Teacher's journal*, 17 : 240-42, December 1917.  
Tells of the deplorable conditions found among children in the rural schools and shows the need of compulsory medical inspection and health supervision.

#### PHYSICAL TRAINING.

142. **Coteau, Marc Bellin du.** The physical education of the fighting man. *American physical education review*, 22 : 521-24, December 1917.  
Method in use in the National military school of St. Cyr, France. Translated by George L. Meylan.
143. **Faunce, W. H. P.** Athletics for the service of the nation. *Old Penn*, 16 : 351-53, January 11, 1918.  
Address delivered at the annual meeting of the National collegiate athletic association in New York on December 28, 1917.  
Analyzes the question of college sports.

144. **Jesien, W. S.** A new French program of physical training. American physical education review, 22 : 529-34, December 1917.  
Gives a typical lesson of the new French system.
145. **Kleeberger, F. L.** Physical efficiency tests as a practical method of popularizing physical education at the University of California. Mind and body, 24 : 361-70, December 1917.  
Read at the convention of the American physical education association, Pittsburgh, Pa., April 1917.
146. **McKenzie, B. Tait.** The relation of physical education to the business of war. American physical education review, 22 : 525-28, December 1917.  
Synopsis of speech delivered at the meeting of the American physical education association, Pittsburgh, April 6, 1917.
147. **Pray, Minerva H.** Baron Nils Posse and his school. Posse gymnasium journal, 25 : 3-6, December 1917.  
Describes the life and labors of Baron Posse, the inventor of the Swedish system of gymnastics.
148. **Rogers, P. C., jr.** Physical training—athletic competition. Louisiana school work, 6 : 204, 206-7, December 1917.  
Treats of athletic competition in elementary schools, and shows the best means of attaining good results from such physical training, untarnished by the evils of professionalism and excess.

#### SOCIAL ASPECTS OF EDUCATION.

149. **O'Neil, W. Jerold.** The assembly hall. Popular educator, 35 : 248-49, 298, January 1918.  
The practical value of the assembly, the nature of the programs, discipline, etc.
150. **Roberts, Alexander C.** An experiment in socialization. School review, 26 : 25-34, January 1918.  
Details an experiment tried in the Everett (Wash.) high school; adapting the training offered in the school to meet every purposeful community demand.
151. **White, William Charles.** A new basis for social progress, by William Charles White and Louis Jay Heath. Boston and New York, Houghton Mifflin company, 1917. xiv, 229, [1] p. diags. (1 double) 12°.  
A survey instituted in 1915 by the Board of trustees of the University of Pittsburgh, "in order to produce a better and more properly functioning institution in the local environment." cf. Pref. Bibliography: p. [217]-221.

#### PLAY AND PLAYGROUNDS.

152. **Goethe, C. M.** Gretchen of Hildesheim. Survey, 39 : 385-90, January 5, 1918.  
A criticism of playground methods. Childhood in Germany and the United States.

#### CHILD WELFARE.

153. **National child labor committee.** Thirteenth annual report of the general secretary. Child labor and delinquency. New York city, National child labor committee, 1917. 135-200 p. 8°. (Child labor bulletin, vol. 6, no. 3, November 1917)  
Contains: Child labor and juvenile delinquency in Manhattan, by Mabel Brown Ellis, p. 161-200.

#### MORAL EDUCATION.

154. **Galloway, Thomas Walton.** The use of motives in teaching morals and religion. Boston, Chicago, The Pilgrim press [1917] 187 p. 12°.

#### RELIGIOUS EDUCATION.

155. **Burns, James A.** Catholic education; a study of conditions. New York, London [etc.] Longmans, Green and co., 1917. 205 p. 12°.  
Describes the condition of Catholic education in the United States at the present time, and points out the problems that must be solved in order to insure its future progress. Presents a special study of the various departments and their relations to each other, including grade schools, high schools for boys and for girls, colleges, and seminaries.



156. Religion and education. *Athenæum* (London), no. 4623 : 564-67, November 1917.  
 Recommends newer and better methods of religious instruction. Teachers should not dwell too much on metaphysical speculation and historical probability. Abstract thought is unnatural to the age and temper of youth. Christian education should be "a practical call to love and service."

### MANUAL AND VOCATIONAL TRAINING.

157. Bayliss, Clara K. The educational awakening. *Education*, 38 : 380-84, January 1918.  
 Discusses the benefits of vocational education and guidance.
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The presidential address of Dean Barnes before the Southwestern society of engineers on the effect of the war upon the engineering schools.

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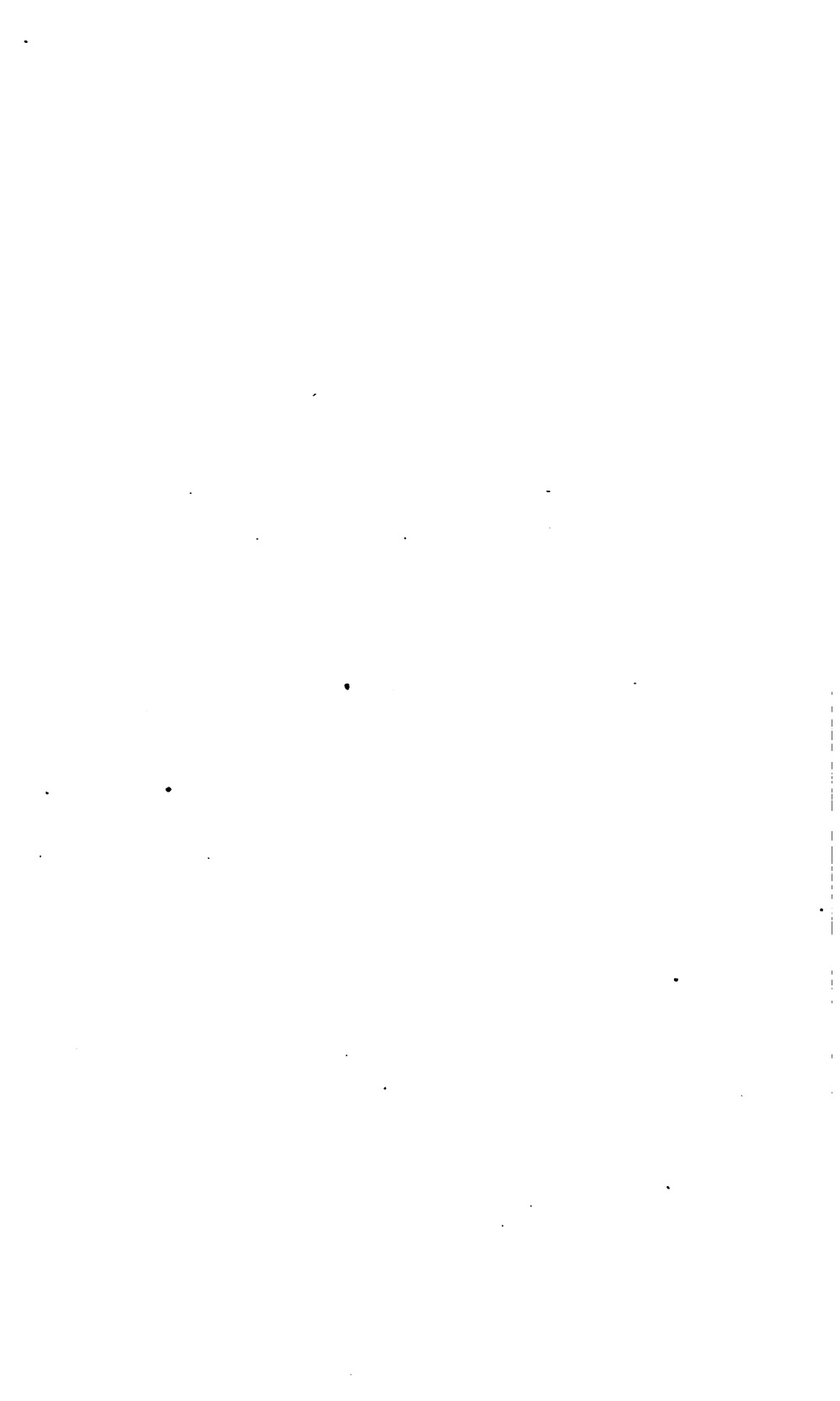
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BUREAU OF EDUCATION

BULLETIN, 1918, NO. 5 PLATE 1



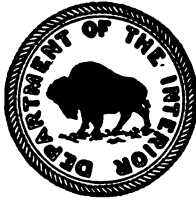
UNITED STATES HOSPITAL FOR NATIVES, JUNEAU.



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 5

WORK OF THE  
BUREAU OF EDUCATION FOR THE  
NATIVES OF ALASKA, 1916-17



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# REPORT OF THE WORK OF THE BUREAU OF EDUCATION FOR THE NATIVES OF ALASKA, 1916-17.

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## PART I.—GENERAL SUMMARY.

The work of the Bureau of Education for the native races of Alaska has been carried on in accordance with the terms and purposes of Congressional appropriations for their education, medical relief, and for the extension of the reindeer industry among them. In the schools, emphasis has been placed upon instruction in matters pertaining to health, industrial training, gardening, and commercial education. Effort has been made to improve living conditions in the villages, to lessen the death rate, and to render the natives better able to meet the changing conditions with which the advancing civilization of the white man has confronted them.

Sixty-eight schools were maintained with an enrollment of 3,666, and an average attendance of 2,172. Four superintendents, 1 acting superintendent, 111 teachers, 5 physicians, and 10 nurses were employed.

The school buildings at Noorvik, Shaktoolik, and Port Moller were completed during the year. A teachers' residence was erected at Hydaburg. The erosion of the bank of the Yukon River made necessary the taking down of the Fort Yukon school building, which will be rebuilt at a greater distance from the river. The region surrounding the village on Golovin Bay, in northwestern Alaska, is barren, and it was with difficulty that the Eskimos could support themselves in that location; they, therefore, migrated to a tract on the northern shore of Norton Bay, where they have an abundant supply of fish, game, timber, and reindeer moss for their herds. The school was reestablished within this tract which was reserved for the natives by Executive order. A wireless telegraph station was established at Noorvik, in Arctic Alaska, which enabled this remote settlement to communicate with civilization.

The Bureau of Education encourages the establishment in native villages of cooperative mercantile stores, financed by native capital and conducted by the natives themselves, under the supervision of the teacher of the local United States public school. In no other way can the natives so readily acquire self-confidence and experience in

business affairs. These stores demonstrate the advantages of cooperation, and the annual dividends received by the stockholders are practical evidence of the benefits of thrift.

Such enterprises are in successful operation at Hydaburg, Klawock, Klukwan, and Metlakatla, in southeastern Alaska; at Tyonek, on Cook Inlet; at Atka, on one of the Aleutian Islands; at Gambell, on St. Lawrence Island; at Wales, on Bering Strait; at Noorvik, on the Kobuk River, in Arctic Alaska; and at Wainwright, on the Arctic Ocean. The auditing of the affairs of the four enterprises in southeastern Alaska made in January, 1918, by a representative of the Bureau of Education showed that these companies had conducted a business of \$96,762.89 during the previous 13 months. The annual business at Atka, Gambell, and Wainwright approximated \$15,000.

One of the most beneficent functions of the Seattle office of the Alaska Division is its transaction of personal business for the natives when such assistance is desired. Formerly it was possible for the natives in remote villages to dispose of their valuable furs and other commodities to local traders only, with the result that the natives received low prices and were constantly in debt to the traders. Within recent years the natives, even in the remotest regions, have availed themselves of the increased facilities of the mail service and send their furs to the chief of the Alaska Division in Seattle, who, through the Seattle Fur Sales Agency, sells the furs to the highest bidder. From July 1, 1912, to June 30, 1917, these sales of furs, ivory, whalebone, etc., have amounted to \$42,166.40; in addition, cash amounting to \$9,980.80 has been received from natives of Alaska for the purchase and shipment of supplies. During this period, their deposits in Seattle banks have realized them \$624.76 interest. By direction of the Secretary of the Interior the supervision of this business is made part of the official duty of the chief of the Alaska Division and he is under bond for the faithful performance of the same.

Action was again taken to put in operation the industries in Metlakatla, on Annette Island. A lease was entered into with cannery operators of Seattle, Wash., of a site for a salmon cannery, and of fish trap rights within Annette Islands Reserve. The lessees guarantee the payment during the season of 1917 of not less than \$4,000 for fish-trap privileges. The cannery is to be operated for five seasons beginning with 1918. For the cannery and fish-trap privileges during these five years the lessees guarantee the payment of not less than \$6,000 per annum. Except in a few instances where skilled labor is required, only native inhabitants of Annette Island are to be employed. It is hoped that the annual income to the Metlakatians from the leases will enable them at the end of the

period of the lease to purchase all of the lessee's interests and operate the cannery themselves, under the supervision of the Federal Government. A local cooperative company has rehabilitated the sawmill which is now furnishing lumber for the cannery building as well as for other buildings in the village. Six thousand dollars of the bureau's funds were expended in installing a water system to furnish drinking water for the village, and limited water power for the cannery and sawmill.

For the fiscal year 1915-16, Congress appropriated \$25,000 to provide for the medical relief of the natives of Alaska; in addition, \$19,000 of the appropriation for the education of natives of Alaska was used for that purpose, making a total of \$44,000 for medical relief during the year. The appropriation for medical relief was increased from \$25,000 to \$50,000 for 1916-17, but as none of the education appropriation was used for medical relief the total expended for that purpose during 1916-17 was only about \$6,000 more than during the previous year. A well-equipped hospital was maintained at Juneau with a physician in charge and three nurses in attendance; the small, improvised hospitals at Nulato and Kanakanak were continued; the hospital at Kotzebue was not in operation during the year, owing to lack of funds and the difficulty in finding a properly qualified physician willing to go to that remote station.

In addition to the employment of physicians and nurses, in several of the Alaskan towns arrangements were made for the treatment of natives in hospitals and by physicians upon the request of superintendents or teachers; teachers at stations remote from a hospital, physicians, or nurses, were furnished with medical supplies for use in relieving minor ailments.

Plans were made in the summer of 1916 for the establishment of a small hospital at Akiak, on the Kuskokwim River, and material for the erection of a hospital building at that place was purchased in Seattle. Great difficulty was experienced, however, in securing transportation for the building material and hospital supplies to this isolated place. One of the two vessels which it was possible to secure proved unseaworthy, and was unable to reach its destination. It had to return to Seattle with its cargo undelivered and part of it in a damaged condition. It was then too late to secure another boat to make the voyage during the short season of open navigation remaining. Consequently it was necessary to postpone the erection of the hospital at Akiak until the following year.

#### THE REINDEER SERVICE.

The appropriation of \$5,000 for the distribution of reindeer among the natives and the training of the natives in the care and management of reindeer was used to establish new herds and to support

native apprentices being trained in the industry. The increased cost of food and clothing has made it impossible for the Government to train as many apprentices with the same appropriation as formerly.

The statistics regarding the reindeer service for the fiscal year ended June 30, 1917, show that during the year the number of reindeer increased from 82,151 to 98,582, and the number of herds from 85 to 98. Of the 98,582 reindeer, 67,448, or 69 per cent, were owned by 1,568 natives; 3,046, or 3 per cent, were owned by the United States; 4,645, or 5 per cent, were owned by missions; and 23,443, or 23 per cent, were owned by Lapps and other whites. The total income of the natives from the reindeer industry during the fiscal year, exclusive of the meat and hides used by the natives themselves, was \$97,515. The total number of reindeer, 98,582, is a net increase of 20 per cent during the year, notwithstanding the fact that 13,144 reindeer were killed for meat and skins, or were lost.

There is still need for the extension of the industry into the Copper River region and especially in the delta country between the Yukon and the Kuskokwim Rivers, where hundreds of natives are living in abject poverty, unreached by civilizing influences.

The fairs, of which four were held during the winter, again proved to be a great stimulus to the natives engaged in the reindeer industry.

---

#### LIST OF PERSONS IN THE ALASKA SCHOOL SERVICE, 1916-17.

William T. Lopp, superintendent of education of natives of Alaska and chief of the Alaska Division, Seattle, Wash.

##### EMPLOYEES IN THE WASHINGTON OFFICE.

William Hamilton, acting chief of the Alaska Division, Pennsylvania.

David E. Thomas, accountant, Massachusetts.

James O. Williams, clerk, Illinois.

##### EMPLOYEES IN THE SUPPLY AND DISBURSING OFFICE, SEATTLE.

Harry C. Sinclair, supply agent, Maryland.

Alexander H. Quarles, special disbursing agent, Georgia.

Chauncey C. Bestor, assistant supply agent, Washington.

Julius C. Helwig, clerk and stenographer, Indiana.

Mrs. Iva M. Knox, stenographer and typewriter, Washington, from October 23, 1916.

##### EMPLOYEES IN ALASKA.

###### DISTRICT SUPERINTENDENTS OF SCHOOLS.

Walter C. Shields, northwestern district, Nome.

Walter H. Johnson, western district, St. Michael.

George E. Boulter, upper Yukon district, Tanana.

Arthur H. Miller (acting superintendent), southwestern district, Copper Center.

Charles W. Hawkesworth, southeastern district, Juneau.



## PHYSICIANS.

Emil Krulish, M. D., Public Health Service, on special detail.  
Walter A. Borland, M. D., Kanakanak, from September 1, 1916.  
Douglas Brown, M. D., Juneau Hospital, to September 25, 1916.  
William H. Chase, M. D., Cordova, from November 16, 1916.  
Linus H. French, M. D., Kanakanak, July-August, 1916, and May-June, 1917.  
Frank W. Lamb, M. D., Nulato.  
James P. Mooney, M. D., Juneau Hospital, from September 2, 1916.  
Daniel S. Neuman, M. D., Nome.  
H. N. T. Nichols, M. D., Kotzebue, during July, 1916.

## CONTRACT PHYSICIANS.

William Ramsey, M. D., Council, from September 1, 1916.  
Curtis Welch, M. D., Candle, from December, 1916.

## NURSES AND TEACHERS OF SANITATION.

Mrs. Mabel R. Borland, Kanakanak, from September 1, 1916.  
Miss Mamie Conley, Juneau Hospital.  
Miss Frances V. Dwyer, Juneau Hospital.  
Mrs. Lulu A. Evans, Akiak, from September 1, 1916.  
Miss Esther Gibson, southeastern district, from November 1, 1916.  
Thomas R. Glass, Kanakanak, July-August, 1916; Kogiung, from September 1, 1916.  
Mrs. Carrie W. Lamb, Nulato.  
Miss Mabel Le Roy, southeastern district, from December 13, 1916.  
Mrs. Lucia Petrie, St. Michael, from September 1, 1916.  
Miss Rhoda A. Ray, Juneau Hospital.

## STENOGRAPHER, OFFICE OF THE DISTRICT SUPERINTENDENT, JUNEAU, ALASKA.

McMurtrey, J. P., from September 16, 1916.

*Teachers and school attendance, 1916-17.*

NORTHWESTERN DISTRICT—ARCTIC OCEAN AND BERING SEA REGIONS AS FAR SOUTH AS THE KOYUK RIVER, INCLUDING ST. LAWRENCE ISLAND.

Schools.	Teachers.	Appointed from—	Average daily attendance.	Enrollment.
Barrow.....	Telbert L. Richardson.....	Washington.....	56	89
	Mrs. Carrie L. Richardson.....	do.....		
	Roy Ahmaagak.....	Alaska.....		
Buckland.....	Mrs. Iva K. Taber.....	do.....	17	19
Dionede.....	Arthur E. Eide.....	California.....	11	14
Elim.....	Miss Anna E. Karlson.....	Alaska.....	53	67
	Miss Mary K. Westdahl.....	do.....		
Gambell.....	Jean Dupertuis.....	Washington.....	53	75
	Mrs. Elizabeth Dupertuis.....	do.....		
Igloo.....	Ebenezer D. Evans.....	do.....	37	46
Kivalina.....	Harry D. Reese.....	Pennsylvania.....	29	53
Noatak.....	Clarence Ausley.....	Oregon.....	37	42
	Mrs. Sue B. Ausley.....	do.....		
Nome.....	Charles Menadelook.....	Alaska.....	23	80
	Charles Kituk.....	do.....		
Noorvik.....	Charles N. Replogie.....	Washington.....	68	106
	Delbert E. Replogie.....	do.....		
	Mrs. May Replogie.....	do.....		
	Mrs. Lydia Oreeluk.....	Alaska.....		
Selawik.....	Frank M. Jones.....	Washington.....	32	66
Shishmaref.....	Thomas W. Schultz.....	California.....	40	52
	Mrs. Klatcha Schultz.....	do.....		
Shungnak.....	Fred M. Sicker.....	Pennsylvania.....	28	51
Sinuk.....	Miss Lucy Howard.....	Alaska.....	24	29
Teller.....	Miss Jorgine Enestvedt.....	Washington.....	20	35
Wainwright.....	Earle M. Forrest.....	do.....	27	50
	Mrs. Elizabeth Forrest.....	do.....		
Wales.....	John F. Coffin.....	California.....	70	89
	Mrs. Mary G. Coffin.....	do.....		
	Arthur Nagozruk.....	Alaska.....		
White Mountain.....	James V. Geary.....	do.....	48	77
	Hannah A. Geary.....	do.....		
Total.....			673	1,632

WESTERN DISTRICT—BERING SEA REGION, BETWEEN KOYUK RIVER AND CAPE NEWENHAM.

Schools.	Teachers.	Appointed from—	Average daily attendance.	Enrollment.
Akiak.....	John H. Kilbuck.....	Alaska.....	43	60
	Miss May Wynne.....	Kansas.....		
	Peter Williams.....	Alaska.....		
Akulurak.....	Miss Mary Laurentia.....	do.....	52	62
Bethel.....	Mrs. Bertha J. Boyd.....	Washington.....	33	64
	William P. McKeague.....	Alaska.....		
Eek.....	Thorvald A. Anderson.....	do.....	17	32
Hamilton.....	Mrs. Martha Fuller.....	Washington.....	19	29
Holy Cross.....	Miss Mary Bernadette.....	Alaska.....	97	98
	Miss Mary Thecla.....	do.....		
Hooper Bay.....	Ralph K. Sullivan.....	Washington.....	31	58
Mountain Village.....	H. Ray Fuller.....	do.....	17	23
Nulato.....	Miss Mary W. Salley.....	Alaska.....	34	60
	Miss Mary Francis.....	do.....		
Pilot Station.....	Elmer M. Harnden.....	Washington.....	23	32
Quinhagak.....	Miss Marie E. Stecker.....	Alaska.....	35	52
Russian Mission.....	Mrs. Corinne Call.....	Washington.....	20	25
St. Michael.....	Floyd L. Allen.....	Michigan.....	22	38
	Mrs. Gladys E. Allen.....	do.....		
Shageluk.....	Walter E. Cochran.....	West Virginia.....	24	43
Shaktolik.....	Misha Ivanoff.....	Alaska.....	21	53
	Harry Vincent Johnson.....	Minnesota.....		
Unalakleet.....	Elmer E. VanNess.....	Tennessee.....	47	81
	Samuel Anaruk.....	Alaska.....		
	Miss Eva Rock.....	do.....		
Total.....			535	810

GENERAL SUMMARY.

UPPER YUKON DISTRICT—VALLEY OF THE YUKON AND ITS TRIBUTARIES BETWEEN 141° AND 157°.

Schools.	Teachers.	Appointed from—	Average daily attendance.	Enrollment.
Circle.....	Miss Evelyn L. Carey.....	Alaska.....	21	30
Esch.....	Everett P. Frohock.....	Washington.....	10	32
Fort Yukon.....	Miss Winifred Dalziel.....	New York.....	28	70
Rampart.....	Miss Lula Graves.....	Alaska.....	4	30
Tanana.....	George E. Boulter.....	do.....	4	17
<b>Total.....</b>			<b>87</b>	<b>179</b>

SOUTHWESTERN DISTRICT—BERING SEA REGION SOUTH OF CAPE NEWENHAM AND NORTH PACIFIC COAST REGION WEST OF 141°.

Schools.	Teachers.	Appointed from—	Average daily attendance.	Enrollment.
Athiak.....	Mrs. Kathryn D. Sellar.....	Alaska.....	36	43
Atna.....	Amoe B. Carr.....	Washington.....	18	30
	Mrs. Ella D. Carr.....	do.....		
	Leland E. Carr.....	do.....		
Chignik.....	Mrs. Lura Olsen.....	Alaska.....	26	31
Chigtung.....	Preston H. Nash.....	Washington.....	46	57
	Mrs. Preston H. Nash.....	do.....		
Copper Center.....	Arthur H. Miller.....	do.....	7	32
	Estaco Ewan.....	Alaska.....		
	Fred Phillips.....	do.....	13	20
	Thomas R. Glass.....	Washington.....	17	39
Kukukak.....	James G. Cox.....	Alaska.....	33	37
Part Moller.....	Walter G. Culver.....	Oregon.....	15	30
Susitna.....	Rupert A. Moon.....	Alaska.....	8	20
Tatchik.....	Chesley W. Cook.....	Washington.....	56	62
	Mrs. Mary E. Cook.....	do.....		
Togiak.....	Walter H. Johnston.....	Alaska.....	17	39
Tyonek.....	Charles M. Robinson.....	Washington.....	27	29
	Mrs. Milda G. Robinson.....	do.....		
Ugashik.....	Will A. Wilson.....	Alaska.....	16	32
Umanak.....	Joseph W. Coleman.....	Washington.....	84	94
	Mrs. Marie A. Coleman.....	do.....		
<b>Total.....</b>			<b>419</b>	<b>566</b>

SOUTHEASTERN DISTRICT—NORTH PACIFIC COAST REGION EAST OF 141°.

Schools.	Teachers.	Appointed from—	Average daily attendance.	Enrollment.
Douglas.....	Mrs. Isabel A. Gilman.....	Washington.....	19	63
Haines.....	Mrs. Nancy L. Alexander.....	Alaska.....	15	38
Heemah.....	Charles F. Richardson.....	Washington.....	31	100
	Miss Elsie M. Neale.....	Washington, D. C.....		
Hydaburg.....	Mark E. Sald.....	Washington.....	67	120
	Miss Ruth E. Storrs.....	do.....		
	Miss Frances M. Williver.....	do.....		
	Mrs. Elizabeth E. Williver.....	do.....		
Juneau.....	Mrs. Sadie E. Edmunson.....	Idaho.....	31	76
Kake.....	Miss Nellie M. Taylor.....	Missouri.....	30	74
	Mrs. Belle Newton.....	Alaska.....		
Kilbuck.....	John R. Cox.....	Oregon.....	21	97
Klawock.....	Charles E. Hibbs.....	Washington.....	63	88
	Mrs. Margaret W. Hibbs.....	Oregon.....		
	Miss Ermine Forrest.....	Alaska.....		
Klukwan.....	Fay R. Shaver.....	do.....	20	40
	Miss Marie B. Thomason.....	do.....		
Lering.....	Miss Margaret Hamilton.....	do.....	13	20
Metlakatla.....	Charles D. Schell.....	Oregon.....	82	169
	Harry F. Geil.....	Idaho.....		
	Miss Agnes Danford.....	Washington.....		
	Miss Gertrude R. Wybrant.....	do.....		
	Miss Margaret W. Schell.....	Oregon.....		
	Mrs. Edith C. Schell.....	do.....		
Sitka.....	Mrs. Elizabeth P. Brady.....	New York.....	30	79
	Miss Mary B. Brady.....	do.....		
Wrangell.....	Miss Hannah E. Breece.....	Oregon.....	20	45
Yakutat.....	Elof M. Axelson.....	Illinois.....	16	41
<b>Total.....</b>			<b>458</b>	<b>1,050</b>

*Expenditures from the appropriation for "Education of Natives of Alaska, 1917."*

Appropriation.....	\$200,000.00
<b>Salaries in Alaska.....</b>	<b>100,244.99</b>
Equipment and supplies.....	21,937.52
Fuel and light.....	24,632.90
Local expenses.....	1,808.44
Repairs and rent.....	7,600.54
Buildings.....	10,960.07
Metlakatla industries.....	6,000.00
Destitution.....	1,881.24
Commissioner's office salaries.....	5,071.67
Seattle office salaries.....	8,271.33
Commissioner's office expenses.....	200.00
Seattle office expenses.....	873.21
Traveling expenses.....	10,220.97
Contingencies.....	297.12
<b>Total.....</b>	<b>200,000.00</b>

*Expenditures from the appropriation for "Medical Relief in Alaska, 1917."*

Appropriation.....	\$50,000.00
<b>Salaries in Alaska.....</b>	<b>19,007.84</b>
Equipment and supplies.....	12,980.07
Fuel and light.....	2,019.10
Local expenses.....	1,578.71
Buildings.....	8,068.88
Destitution.....	4,082.07
Traveling expenses.....	2,071.75
Contingencies.....	191.58
<b>Total.....</b>	<b>50,000.00</b>

*Expenditures from the appropriation for "Reindeer for Alaska, 1917."*

Appropriation.....	\$5,000.00
<b>Salaries of chief herders.....</b>	<b>583.61</b>
Supplies.....	4,210.72
Establishment of new herds.....	200.00
Contingencies.....	5.67
<b>Total.....</b>	<b>5,000.00</b>

*Number of reindeer belonging to each class of owners, 1916-17.*

Owners.	Number of reindeer.		Increase. <sup>1</sup>		Decrease. <sup>2</sup>		Per cent owned.	
	1916	1917	Number.	Per cent.	Number.	Per cent.	1916	1917
Government.....	3,390	3,046	.....	.....	344	10	4	3
Missions.....	5,186	4,645	.....	.....	541	10	6	5
Lapps and other whites.....	17,530	23,443	5,913	34	.....	.....	22	23
Natives.....	56,045	67,448	11,403	21	.....	.....	68	69
Total number.....	82,151	98,582	.....	.....	.....	.....	.....	.....

<sup>1</sup> By purchase, apprenticeship, and fawns.

<sup>2</sup> By paying apprentices and natives for services, and sale of deer by missions.

*Annual increase and decrease of reindeer.*

Years.	Balance from previous year.	Fawns surviving.	Imported from Siberia.	Killed for food and skins, or lost.	Total in herd June 30.	Per cent of annual increase.	
						By fawns.	Net (since importation ceased).
1902.....	.....	.....	171	28	143	.....	.....
1903.....	143	79	124	23	323	55	.....
1904.....	323	145	120	96	492	45	.....
1905.....	492	276	123	148	743	56	.....
1906.....	743	357	.....	100	1,000	48	.....
1907.....	1,000	466	.....	<sup>1</sup> 334	1,132	46	.....
1908.....	1,132	625	161	185	1,733	55	.....
1909.....	1,733	638	323	299	2,394	37	.....
1910.....	2,394	756	29	487	2,692	32	.....
1911.....	2,692	1,110	200	538	3,464	41	.....
1912.....	3,464	1,654	30	353	4,795	48	.....
1913.....	4,795	1,877	.....	390	6,282	39	31
1914.....	6,282	2,284	.....	377	8,189	36	30
1915.....	8,189	2,978	.....	926	10,241	36	25
1916.....	10,241	3,717	.....	1,130	12,828	36	25
1917.....	12,828	4,519	.....	1,508	15,839	35	23
1918.....	15,839	5,416	.....	1,933	19,322	34	21
1919.....	19,322	6,437	.....	2,844	22,915	33	18
1920.....	22,915	7,239	.....	2,829	27,325	32	19
1921.....	27,325	9,496	.....	3,192	33,629	35	23
1922.....	33,629	11,254	.....	6,407	38,476	33	14
1923.....	38,476	13,681	.....	4,891	47,266	35	23
1924.....	47,266	16,866	.....	6,260	57,872	36	22
1925.....	57,872	21,022	.....	8,651	70,243	36	21
1926.....	70,243	25,116	.....	13,208	82,151	36	17
1927.....	82,151	29,574	.....	13,144	98,582	36	20
Total.....	.....	167,582	1,280	70,281	.....	40	22

<sup>1</sup> 246 killed in Barrow relief expedition.

<sup>2</sup> Some of the figures which make up these totals are estimated.

<sup>3</sup> Average.

*Increase in reindeer service from 1907 to 1917.*

	1907	1917
<b>Total natives owning reindeer</b> .....	114	1,568
<b>Herders and owners</b> .....	57	1,398
<b>Government apprentices</b> .....	17	24
<b>Mission apprentices</b> .....	28	10
<b>Apprentices of Lapps and other whites</b> .....	7	2
<b>Herders' and owners' apprentices</b> .....	27	134
<b>Total apprentices</b> .....	79	170
<b>Reindeer owned by natives</b> .....	6,406	67,448
<b>Total number of herds</b> .....	16	98
<b>Sled reindeer:</b>		
Trained.....	445	1,843
Partly trained.....	77	420
<b>Income of natives from reindeer</b> .....	\$7,783	\$97,515
<b>Total income from reindeer</b> <sup>1</sup> .....	\$9,563	\$122,517
<b>Percentage of reindeer owned by—</b>		
Government.....	23	3
Missions.....	22	5
Lapps and other whites.....	14	23
Natives.....	41	69

<sup>1</sup> Includes approximately \$6,000 received by Teller Mission for deer sold Lomen & Co.

*Amounts appropriated, growth, and results of introduction of reindeer among natives of Alaska.*

	First 10 years (1893-1902).	Next 5 years (1903-1907).	Last 10 years (1908-1917).	Total.
Appropriations.....	\$133,000	\$99,000	\$85,000	\$317,000
Number of herds at end of each period.....	9	7	82	98
Number of natives owning reindeer at end of each period.....	68	56	1,444	1,568
Average cost to Government per owner.....	\$1,956	\$1,768	\$59	\$202
Number of reindeer owned by natives at end of each period.....	2,841	3,565	61,042	67,448
Valuation of same.....	\$71,025	\$89,125	\$1,536,050	\$1,696,200
Income received by natives.....	\$4,500	\$15,500	\$548,352	\$568,352
Number of reindeer owned by Government at end of each period.....	2,247	4,684	3,046	3,046
Valuation of same.....	\$56,175	\$117,100	\$76,150	\$76,150

*Wealth produced by introduction of reindeer in Alaska.<sup>1</sup>*

Valuation of 67,448 reindeer owned by natives in 1917, at \$25 each.....	\$1,686,200
Total income of natives from reindeer, 1893-1917.....	568,352
Valuation of 31,134 reindeer owned by missions, Laplanders and other whites, and Government, 1917.....	778,350
Total income of missions and Laplanders and other whites from reindeer, 1893-1917 <sup>2</sup> .....	214,443
<b>Total valuation and income</b> .....	<b>3,247,345</b>
<b>Total Government appropriations, 1893-1917</b> .....	<b>317,000</b>
<b>Gain (926 per cent)</b> .....	<b>2,930,345</b>

<sup>1</sup> Some of the figures in these tables are based upon estimates.

<sup>2</sup> \$54,000 have been deducted for deer sold by Lapps and missions to Lomen & Co.

## PART II.—DETAILED REPORTS.

### SECTION 1.—REPORTS BY SUPERINTENDENTS.

#### REPORT OF WALTER C. SHIELDS, SUPERINTENDENT OF THE NORTH-WESTERN DISTRICT.

During the year 18 schools have been maintained in this district. The number of pupils enrolled was 1,032, and the entire population of the villages reached by schools was 3,894. There are probably 1,000 natives outside of these villages in this district, making the total native population of this district close to 5,000. Twenty-five white teachers were under appointment and 8 Eskimo teachers.

*Inspection.*—All of the schools were visited during the year. Those south of Point Hope, with the exception of the up-river stations, have been visited twice. The trips of inspection during the year covered 4,328 miles, 2,427 by water and 1,901 by land. I was away from home on these trips 142 days during the year.

This is the first year that I have been able to report all my land travel to have been behind reindeer, and probably it is the first time any superintendent has had such a "clean" record. The winter's travel was the most enjoyable I have ever experienced. With the exception of a very trying trip to Igloo and Shishmaref in December, travel conditions were unusually good and the sled deer did well. With the assistance of my "boys" at various places, who were always ready when I arrived, the winter's work was done in record time. During January, February, and March, in spite of considerable deep snow, we averaged 30 miles a day. From Nome to Shungnak, with the exception of one day lost on the coast on account of a blizzard, we went straight through to Shungnak without a stop except over night. We were able to cut our time between Selawik and Shungnak to four days. On the return from the north, I was met at the Igloo Fair by my wife and two children, who traveled from Nome to the Hot Springs with sled deer.

Once more I feel that it is proper for me to express the wish that the time may come when the Government will make some provision for the medical care of its civil employees in Alaska in case of accident while traveling on duty, also that some pension provision will be established to cover any permanent disability that might very easily come to any of us who travel in this country. We are called upon to face dangerous conditions at times, and this should be recognized.

This year again adds to our debt to the Coast Guard Service for assistance rendered through the U. S. S. *Bear*. I wish to express my appreciation of the great aid rendered me by Capt. C. S. Cochran and his officers during the summer months. The trip to Point Barrow and all the coast stations was made on the *Bear*, and I was given every opportunity to do my work at all places. The work accomplished for the natives by the surgeon of the *Bear*, Dr. Ernst, was of inestimable benefit.

*Teachers.*—I think that our teachers, who do the real work among the natives and who are the real points of contact with our actual work, should be given all possible recognition. Their value to the service is inestimable.

The work in this district is in the hands of capable, efficient people; their hours are all their waking hours, and their place of work in the entire community and region for at least 50 miles around. They carry the responsibility of the health of each

individual, his business affairs, his family affairs, and his chances for future happiness. These community services and responsibilities make the schoolroom duties of the teachers fade into insignificance.

Through the excellent supervision of appointments, each year we are getting more efficient teachers in this district. It is an easy matter to select a person whose experience and recommendations assure schoolroom efficiency, but it takes personal investigation of a peculiar order to make certain that the applicant has the larger qualifications for the leadership of an Eskimo village. All this has been efficiently taken care of by the chief of the Alaska division.

*Winter trips by teachers.*—Mr. Reese and his family, Mr. and Mrs. Jones, and Delbert Replogle went to the Noatak Fair. Charles Menadelook, of Nome, went to the Igloo Fair. Mr. Forrest visited Icy Cape from Wainwright twice, and Mr. Evans went from Igloo to Nome in the spring. In addition, most of the teachers made regular trips to the herds under their supervision. These trips are often long and trying.

*Schools and buildings.*—This year we abandoned the school at Council and opened new work at White Mountain, 15 miles down the river. This new school has reached more people than the old one and is in a much better location.

Of the 1,000 natives referred to in the first paragraph of this report as being outside of school villages, most of them are located in small scattered communities, none of which warrants a school.

The largest centers without schools are: Point Hope, estimated population, 300; Solomon and vicinity, 75; King Island, 125.

Of these places I would again most strongly urge the establishment of a Government school at Point Hope. The Episcopal mission maintains a large mission plant at this place, but it has been in charge of one man who is manifestly unable to attend to much school work. I believe the mission would welcome the establishment of a school by the bureau if the usual good judgment were employed in the selection of a teacher. At Solomon the storekeeper has maintained a sort of school out of private funds. A building was furnished and a native teacher hired. While Solomon is, in my opinion, a poor place to "pile up" natives, yet the store and lighterage jobs will probably hold them for some years. I recommend the appointment of a native teacher at a nominal salary and the furnishing of school equipment. While King Island has a large population relatively, its location is too trying for a white teacher. Its permanence as an Eskimo village depends entirely upon the permanence of the walrus herds, which is more than doubtful.

Diomedé Island is our most difficult station; the teacher is terribly isolated and the natives are hard to handle. They go right back to their old ways as soon as the winter ice comes down and shuts off the island. The school has abolished the drunkenness and crime that flourished in this region in the past, but with that exception has accomplished but little. There are few children, and there is no chance of development along economic lines. The inhabitants have to depend upon the walrus catch very largely. For several years we have been trying to induce both these people and the King Island people to go to St. Lawrence Island. While this project is difficult, yet, if accomplished, in the end it will be an excellent move.

*Natives; general conditions.*—I have elsewhere stated that the native population in this district amounts to about 5,000. In tabulating the births and deaths, as reported by each teacher on the monthly report cards, I find that the birth rate is about 30 to each 1,000 of population and the death rate about 20 to each thousand. This makes the actual increase about 1 per cent. I believe these figures are fairly close for this district. This would show that the Eskimos are holding their own and are slightly on the increase. Only three villages of those reported showed a decrease. In studying these figures it must not be forgotten that the large death rate on St. Lawrence Island this year, 24 out of 240, due to an epidemic, accounts for the low rate. Next year the increase will probably be twice that of this year.





A. REINDEER FEEDING THROUGH SNOW, EN ROUTE TO NOORVIK FAIR.



B. JUDGING THE SLEDS AT IGLOO FAIR.

One of these men made a round trip of 900 miles to attend the fair.



**A.** TEACHER'S RESIDENCE, NOORVIK, IN ARCTIC ALASKA.



**B.** STREET IN NOORVIK, TO WHICH THE ESKIMOS MIGRATED FROM DEERING, WHERE, ON ACCOUNT OF LACK OF TIMBER, THEY LIVED UNDERGROUND.

The past year has been unusually good for furs south of Point Hope, but much worse than usual to the north. The little village of Shishmaref, for example, received over \$2,000 in cash for its white fox. There was an unusual run of fox along that part of the coast. Selawik and Noorvik and Noatak also did very well.

The coast villages, especially Wales and Barrow, had a hard winter. These villages seem to have reached the zenith of their prosperity. The decline of the whaling industry and the diminishing walrus catch, as well as the eventual lessening of the trapping in the vicinity will mean, I believe, the breaking up of these considerable centers of population. It is difficult to work out any solution of the problem for these two largest centers. While in time most of the people will become large reindeer owners, yet their herds will have to be kept at a considerable distance from these places. I am of the opinion that the future will find the large Eskimo centers inland, on rivers where there is timber, instead of on the barren coast as at present. The seal hunters will still do their work on the coast and ship their seal inland, but during the winter I am of the opinion that the future generations will live in the timber, where they can satisfy their desire for more comfortable and roomy houses and a more diversified diet.

The need of native stores, cooperative or otherwise, is very great and will become greater. It is not so much the need for lowering the prices the natives have to pay for their goods, for the present number of stores with their keen competition has put prices down where they can not be improved upon to any very great extent. It is not on the buying end that the native needs help, it is more on the selling end. There is a tremendous profit in furs and other native products a great deal of the time, if only the middleman could be cut out. The establishment of these stores would procure for the native the full value of his product. But, as I have already stated in another report, I do not believe it advisable to attempt the establishment of such a store at any place where there is not a good fox catch. It is difficult to get ahead when the only products handled are sealskins, ivory, and articles of native manufacture. The real profit is in the furs.

*Noorvik.*—The establishment of the Noorvik center, involving as it did the removal of Eskimos from the coast to a timbered section, has been an epoch-making event in our management of the Eskimo problem. The Noorvik station is the biggest project our people have to handle in this district. It has called for leadership of the highest order and an unusual display of mechanical ability. Mr. Charles Replogle and his son handle the largest school in this district. They also manage and operate a sawmill and an electric lighting plant; they have installed and are bringing to perfection a wireless station that is communicating direct with Nome regularly; and they have organized various native industries, among others a fish trap, managed by a native company—a native store started without any outside help. They have likewise established a sawmill-operating company, which takes charge of the management of the mill, paying the labor and engineer and sawing on shares. After the success of the electric lighting system the natives wished electricity in their homes, so an arrangement was made for the natives to purchase the lights, wire, etc., and to pay for a native engineer to keep the plant running. All of this work has been inaugurated and carried on by our people at Noorvik, and it all has been done in addition to the regular school, village, and reindeer work that all other teachers have to manage.

*Medical work.*—In this district we have had only one doctor under appointment, but no nurses, except Miss Carlson, at Elim, who was appointed as a teacher, not as a nurse. While we have had good contracts with Dr. Welch at Candle and Dr. Ramsay at Council, we have withdrawn from Kotzebue. An arrangement was made with Dr. Spence, of Point Barrow, to make one trip to Wainwright during the spring.

I again urge the appointment of a physician for Kotzebue, and the appointment of as many field nurses as possible, each one to have charge of several villages. In order

to render the medical service efficient it will require the services of a medical superintendent, who will visit each section and outline the work that should be done.

Eventually our service will take up the matter of preventing the spread of tuberculosis and other diseases by isolating afflicted persons. There are also chronic cases which need continual care which can only be given by some institution. I urge the establishment of a sanitarium either at Hot Springs or White Mountain on Seward Peninsula, or at Noorvik or Noatak in the north.

*The "Eskimo."*—Last September Mr. E. D. Evans, teacher at Igloo, and I took it upon ourselves to start the publication of a little magazine in the interests of the service and of the Eskimos. We secured all the subscriptions we could get and undertook the financial responsibility of publication. Mr. Evans took charge of the paper from Igloo because there was no one at Nome able to handle it in my absence. The paper has been a great success, we think. While it has received considerable flattering comment from outsiders who are interested in Alaska, the natives, or various scientific subjects connected with primitive peoples and countries, yet the paper's greatest success has been in its appeal to the Eskimos themselves. I have heard it said that the *Eskimo* is kept inside of the Bible in many Eskimo cabins.

The aim of all our education of the Eskimo is to put him on his feet, to make him fit to take care of himself in this modern world into which he has been suddenly thrust right out of the "Stone Age." He has imbibed education rapidly, but it has been hard to put his education to practical value at once. His knowledge of figures has been of real value to him in all his business affairs, but his reading has not been the practical good it might be because there is so little for him to read that fits his own case. In the *Eskimo* we have tried to give the Eskimo something to read that absolutely fitted his case; and he has taken to it wonderfully.

From the first we have endeavored to make the Eskimos write articles for the magazine. This has mostly been along reindeer lines, following up the plan at the basis of all the work at the reindeer fairs—the development of a strong, united Eskimo sentiment on matters that vitally concern the Eskimos. This development of Eskimo leaders and Eskimo public opinion is, in my estimation, the most far-reaching work that we can do. It is being done remarkably well by the Eskimo and the reindeer fairs. The little paper is only in its infancy, but we have many large plans for its development. For example, we have now in course of preparation several histories of different tribes, which are being written by Eskimos. These articles will doubtless prove important contributions to ethnology; records of the primitive history, religion, and folklore of a people, written by themselves. By studying their past and comparing it with the new world opened to them, the Eskimos will attain a development in the next 20 years that will be more wonderful than the advance they have made in the last two decades.

Credit should be given for the establishment of the above-named paper, and the bureau should do something to lighten the financial load of its publication. The journal should support itself and would easily do so if properly pushed. But it is hard for us to make people (natives included) appreciate the fact that the *Eskimo* while treating of Government business, yet has to be kept going by private funds.

*The reindeer service.*—During the past year there have been 60 different herds in this district under 17 local superintendents. The deer in these herds number about 50,379. During the year all of the stations have been visited by me, some of them several times, but only 23 of the camps have been visited. It is no longer practicable for a district superintendent to visit every camp. The camps are too widely scattered. However, I believe that I have seen and talked with most of the herders. In addition to personal conferences with the herders there has been a steady increase in the large amount of correspondence between individual herders and the Nome office.

*Local supervision.*—Most of our teachers have made a great success of their herds. But the work is trying and there is a mass of detail connected with it. As I have

stated repeatedly, the teacher has to neglect village and school work to attend to the herd and reindeer work. Where there are three or four or even five herds this work becomes very insistent. The time has come when efficiency demands men specially appointed for reindeer work.

*Travel with sled deer.*—This has been fully covered under my education report. This winter for the first time the work in this district was done behind reindeer the whole winter. The sled deer are getting better each year and the men are handling them better. This is due entirely to the impetus given reindeer transportation by the fairs.

*Disease.*—There has been considerable hoof disease this year, just as there was last year, and I believe it is on the increase. It is probable that we have now reached a critical point; for years we have had comparatively little trouble along that line. The last two summers a considerable number of deer has been lost from this disease. The only way we know to meet it is by moving the herd off the infected ground. In some cases this was not done because the native herders were out of reach at the time and the local superintendent knew nothing about it until too late. In time the natives will appreciate the seriousness of this matter and will fight it themselves, but at present the disease always comes at a time of the year when many of the herds are undermanned, so that the most capable men are not on hand to direct matters.

With the increasing interest taken by outsiders in the by-products of the industry, especially in the development of a market for reindeer leather, we have all become more impressed with the seriousness of the damage done by the "Warble fly." This fly is the cause of the grubs that hatch out under the skin of the deer and leave large holes. These holes heal after several months but leave scars which show plainly on the hide even if they do not penetrate entirely. Considerable has been done in the past two years by the natives in tanning the leather for their own use, instead of using the skin only with the hair on. A beginning has also been made to commercialize the leather in the United States. The scars made by the grubs lessen the value of the leather tremendously and make it entirely unfit for anything but second-class goods.

There are two ways to meet the trouble, both of them seem almost useless. The one is to force a campaign of destruction against the fly itself, a "swat the fly" campaign, and the other is to follow one of the several methods for protecting the deer from the fly or for removing the grub before it hatches. The killing of the flies would have to be a long and persistent task. To dip all the deer, as sheep are dipped, would be difficult and expensive in this country. To squeeze the grubs out by hand would mean taking out more than fifty from each animal and would be tedious. However, this evil must be stamped out in some way. In this case, as in most of our other difficulties, what we need is a trained man to study the situation and recommend a method to follow.

*Breeding, etc.*—The last of the deer imported from Siberia reached here in 1902. Since that time, while there has been an extremely slight mixture of caribou blood with the original strain, the deer in this country have reached a large number and they all come from the original stock, numbering but little more than a thousand. My personal experience goes back only eight years. I do not believe the deer have become much smaller from this in-breeding, but I have been forced to the conclusion that the deer are not as prolific as they were years ago. In 1914 I made a report on the percentage of adult females bearing fawns. At that time the general average was 71 per cent. This year it will be 65 per cent or less. And this year was a good year.

The stock can not but deteriorate, no matter how careful we are to select the best bulls for breeding and to exchange bulls. We know that this matter has not been efficiently managed because we have no man specially trained for such work. But even by the most scientific management the fact would still remain that year after year we have only the original stock to work on.

We should no longer slight the fact that new stock is needed. I strongly recommend that at least three shipments of deer be imported from Siberia to improve our stock. Unless this is done the deer we have will certainly deteriorate faster each year. As already stated, I do not believe there is any very serious deterioration in size now, except what is due to careless breeding with the stock we have, but this is bound to come. I do believe, however, that the deer are less prolific and possibly more subject to disease and weakness, especially the fawns.

When I consider that our appropriation has dwindled from \$25,000 to \$5,000 I appreciate the fact that it will be difficult to secure money for this purpose. However, the reasonableness of the recommendation should be self-evident when it is recalled that the last deer was imported in 1902.

*Mission and white herds.*—My report of last year contains general statements regarding mission herds and herds owned by white men which still apply. At the date of writing this report, Lomen & Co. have increased their holdings by the purchase of the Klemetsen herd in the western district. To effect this purchase several new stock holders entered the company, all business men here at Nome.

The company has secured the services of William Marx, United States commissioner at Teller, for the management of their Teller herd. They have done well in creating markets for the by-products of their herd, and have been the first to begin butchering deer in a slaughter house in accordance with modern methods.

*Grazing lands.*—The question of the right to use land for grazing is the point of contact between white herds and native herds. There is some unrest now over this question, and it can easily become critical unless properly covered by law.

*"The Eskimo."*—The publication of our little paper in this district has done a great deal to interest the reindeer men in their work. Two pages of each issue, at least, have been devoted to reindeer business. It is an extension of the work of the fairs and tends to emphasize the development of native leaders, and to create a united Eskimo sentiment on matters that concern their race so deeply. It is impossible for me to show in this report the great good accomplished by this magazine even in its beginning.

*Reindeer fairs.*—The two fairs, at Noatak and at Igloo, far surpassed anything we ever had before. The interest was greater, much more work had been done to prepare for the events, and many records were broken. At the Noatak fair over 101 people were fed in the mess tent (not including the 11 in the teachers' mess). At Igloo 83 were fed in the big tent. Caring for this number of people for a week entailed considerable work. Four years ago such efficient labor was out of the question and unheard of. Now it is all handled by the Eskimos themselves. I wish to emphasize the fact that in addition to the impetus given the reindeer industry, the fairs are developing the Eskimos along other important lines.

Among records that excel those of a year ago, the 10-mile course was covered in 27 minutes and 20 seconds. Last year it was 37 minutes and 8 seconds. It will also be noted that in the racing events the Igloo fair was much faster than the Noatak fair. I should state, in this connection, that the exhibitions were much better at the northern fair.

I believe the most important thing accomplished at the fair was the emphasis placed upon the development of a real united Eskimo sentiment on matters that concern the natives vitally. This year the delegates elected at each fair five head herders who are to be their "leaders" during the coming year. This first year we will not do much to develop this idea, but the second year will see a great deal of authority placed upon these head herders. They have already settled a great many minor matters, and settled them much more efficiently than I could have myself. They have attempted to bind the herders together and to get all of the reindeer men to work together, especially in the division of markets for meat. There is much to be done along this line yet.

I thoroughly believe that the most hopeful factor in the situation today, and one that will save the reindeer industry for the Eskimos, is the awakening of the natives to their own responsibilities. Each fair will strengthen them along this line.

*Recommendations.*—(1) Expert supervision. We should secure the services of a trained man to study the herds, improve breeding and fight disease.

(2) Native supervision. We should develop the head-herder idea as worked out at the fairs and give several of the leading natives a very nominal salary, either as teachers, from the education fund, or as head herders from the reindeer fund.

(3) Secure an appropriation for the importation of 200 bulls from Siberia to improve the stock.

(4) Settle the matter of grazing rights.

(5) Use a part of the funds, either education or reindeer, or both, for the support of *The Eskimo*.

(6) Continue the fairs for at least three years more.

(7) The chief of the division should make a winter visit to northern Alaska in the interests of the reindeer industry.

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#### REPORT OF WALTER H. JOHNSON, SUPERINTENDENT OF THE WESTERN DISTRICT.

*Inspection.*—Special effort was made to visit the heretofore-uninspected villages and camps and, with a few exceptions, every stream, bay, island, and village, was visited. The villages near the mouth of the Kuskokwim River, as well as the section north of Bristol Bay, were visited by Assistant Superintendent John H. Kilbuck, while the villages on the Shageluk slough were visited by W. E. Cochran. The approximate distance traveled by the superintendent was 5,000 miles—2,500 by small gas boat, 2,000 miles with reindeer, and 500 miles with dogs. While in conference with the chief of the division, at Seattle last July, plans were made for exploring the coast region of the tundra district between the Yukon and Kuskokwim Rivers. As this country is a network of sloughs, small rivers, swamps, tide-flats, and lakes, a small boat large enough for two men to sleep in, yet small enough to be portable, was purchased, with a small detachable engine. With this outfit I was able to make the trip from Hooper Bay to Bethel, traveling back and forth in a zig-zag course along the coast until Nelson Island was reached. From there the general direction of travel was toward the east, by way of the large tundra lakes and the tundra rivers until we arrived at the Kuskokwim River, which we ascended until the small slough or "dirty creek," as it is called, was reached. This is the entrance of the Yukon-Kuskokwim portage. We crossed this portage in five days, and because of low water it was necessary to carry our outfit over five places; some were not long—200 yards or more, while two were nearly a mile in length. Having to carry a complete camping outfit besides an engine, gasoline, and a boat, it was necessary for us to make seven relays—80 pounds or 10 gallons of gasoline being considered a pack for one man in the soft moss or muck that is found on low ground. We then proceeded down the Yukon to St. Michael, whence a trip to Unalakleet and return was made before the freeze-up. Immediately after the break-up a trip was made to Nunivak and Nelson Islands, also to a few places that I had been unable to reach with a small boat last fall.

I now feel satisfied that I have thoroughly investigated conditions along the coast, islands, and tundra of this district. All investigations were carried on with the idea of locating schools or reindeer herds. Going south from Hooper Bay not a single suitable site was found until Nelson Island was reached; along the north and east shores of it there are no villages, the water being shallow when the tide is out. Several small camps or villages were found on this stretch of tundra, but they were all

built in low places near sloughs, rivers, lakes, or the ocean. The best location noticed was situated about 50 miles north-northeast of Nelson Island; and though there were no natives at this place, I believe that they would move to this low mountain if a school were placed there. At Nelson Island the natives were found on the west and south sides. They stay on the island for a few months in the summer and about three months in the spring, fishing in the summer and sealing in the spring before the ice goes out. Four days were spent at Tununa, on Nelson Island. A thorough investigation was made as to the resources of this place. There is very little game in the winter; in the spring the people come to the island for sealing, then after the ice goes out they scatter along the west side of the island and fish. Codfish, herring, and salmon are caught in abundance; water fowl abound; and berries are plentiful. Driftwood is scarce, but sufficient is found for kindling, while two good veins of coal are within 2 miles of Tununa. One vein is on the beach and can be loaded into boats, while the other is high up on the hillsides. Both veins are accessible and as the coal is of good quality it could be utilized to supply several of the coast schools, or at least Hooper Bay and Nunivak Island. Nelson Island is not suitable for reindeer grazing during the winter.

Nunivak Island has several small villages, the largest being located on the north-east coast. This village has an ideal site for a school, and the Methodist Missionary Society, with headquarters at Nome, is planning to build a mission at this place. The natives of Nunivak expressed their willingness to move wherever the school might be located. As the land is quite high and rolling, with gravel beaches, affording good drainage, the soil was not so wet and muddy as that of the tundra district and the people were not so muddy and dirty. At Kanrayuktaligamute, where the best site was found, there is a small stream for water; a little driftwood is gathered in the bay; water fowl, fish, berries, and sea birds furnish food in the summer, while seal hunting and fox trapping (white foxes) are profitable occupations during the winter. The island is the best adapted to the grazing of reindeer that I have seen.

By making a single portage of approximately 200 yards we were able to visit the villages on the large lakes north and west of Bethel. These lakes, though apparently deep, are quite shallow and we were able to touch bottom with our oars—5 feet being the average depth, and often places were found a mile or more from shore that were only 3 feet deep. This has to be considered when the school site is decided upon. The villages are all located at the entrance of sloughs or small rivers, consequently the ground is lower and not as suitable for building purposes as that found farther back. A good location for a school was noticed on a slough leading from these lakes into the Kuskokwim River. Here a native trader has a small store and one or two native families live near by, but the native village proper is across the river on lower ground. If a school should be built on the high ground it would be necessary to have the natives move across the river or the children would have to cross in oats until the ice formed. The name of this place is Piagamute and is the nearest village to the Kuskokwim River, being about 20 miles from Bethel by land and 50 by water. The supplies could be shipped to Bethel and then transferred to smaller boats for transporting to the school site.

The region north and west from Akiak has not a sufficient number of natives to warrant a school. Three small villages were visited, with one or two families in each. These people were invited to send their children to Akiak, Russian Mission, or Holy Cross. In many places arrangements were made whereby parents in outlying villages placed their children with relatives located in close proximity to a school, thereby giving the children the benefit of a schooling without removing the parent from his chosen hunting ground.

A school should be located on the Kashungnuk River, near the Yukon, where the last spruce timber is found. With a cooperative store, hospital, mission, doctor, and a nurse this place would draw from all of the tundra villages within a radius of



a hundred miles. Only in June can the supplies be boated from the Yukon into this river and the supplies must come on the first boat on the opening of navigation. The distance to the site is approximately 40 miles from the Yukon by land, and a hundred by water. Land travel is impossible in summer. Kaltag, 40 miles below Nulato, and Kotlik, near the north mouth of the Yukon River, have sufficient children to warrant schools. A few of the Kaltag children attend school at Nulato, and three or four of the Kotlik children either attend at St. Michael or Hamilton.

*Schools.*—I believe that all of the teachers realize that to do justice to the work and the people, it is necessary to exercise a spirit of philanthropy. A teacher's time is not his own, as he soon finds out by experience, for often he is called at the most inopportune times to assist in philanthropic deeds. A self-willed person, who believes that he is giving up too much by laboring in this Alaskan country, is not the sort of a worker the bureau will retain in the work. The teachers are all efficient, and the general advancement of the communities shows that excellent work has been done. This year special stress has been put on filling every desk and seat in the schools. Many children living in distant villages were invited to come and live with their relatives so as to be able to take advantage of the school. In the school-room the children were taught to tan skins, make snowshoes, fish traps, fish nets, sleds, draw maps of the region on a large scale, in addition to the usual branches of study; the girls were instructed in cooking, sewing, and general housework, while the boys studied and practised agriculture. The best snowshoe maker in the vicinity was invited to instruct the class, and in this way the boys were soon able to turn out a rediable snowshoe. In one village the best workman happened to be the chief or spokesman, and he deemed it an honor to help the children and took great pride in teaching them. The same method was used in making sleds, tanning skins, etc., while all of the older men were invited to make additions to the large map of the region. In these ways the older people become interested in the work done by the children and try to keep their children in school as long as possible. It is the exception, rather than the rule, to find a parent that does not wish his child to attend school. Should a teacher go about his work in a half-hearted way it not only affects the children, but the whole village shows the lack of ambition.

*Medical work.*—Material for a hospital arrived at Akiak during the summer of 1916, but the boat that was to bring the carpenters, doctor, and nurse did not succeed in making its fall trip, so the building was not erected. However, a nurse managed to reach Akiak via the Yukon River, crossing the portage. She visited the schools and villages on the Kuskokwim River, and also the villages of the tundra. Her work was of a very satisfactory nature. A doctor will be in charge of the hospital, which will be erected later.

At Nulato Doctor Lamb and his mother carried on the work in an excellent manner. The natives all trust Doctor Lamb and assist him in many ways. He is to be transferred to Akiak and the natives deplore the fact that their physician is to leave them. But they have been assured of a doctor, and understand that the hospital will not be closed.

Shageluk, Anvik, and Holy Cross are without the services of a physician. Holy Cross has a small hospital and a nurse in charge. A nurse is a great help in any community, but it is necessary that a doctor make occasional visits. Anvik will build a small infirmary and it has been promised a nurse by its Mission Board. This infirmary will be open to all natives, and as Anvik is conveniently located to Shageluk, by winter trail, and as most of the Shageluk natives come to the Yukon to fish during the summer, near Anvik, a doctor should be placed in this locality, with headquarters at Anvik. Rev. J. W. Chapman voiced the sentiment of the Anvik people by stating that they would be willing to provide a place for the doctor to stay while at Anvik. The doctor would travel among the Shageluk, Holikachuket, Holy Cross,

and Swiftwater natives. The only expense to the bureau would be the drugs, travel and salary of the doctor.

A medical man should be stationed at Mountain Village. If possible his wife should teach the school. This doctor would make trips into the tundra and visit Pilot Station, Hamilton, and Akulurak. He would blaze the way for a hospital to be placed on the tundra, later. At the present time the people of the lower Yukon are without trained medical aid.

The nurse at St. Michael, with the free aid given by the post surgeon, is able to handle the situation very satisfactorily. I trust that some arrangement can be made with the War Department whereby the Interior Department can either pay for the services of their doctor at St. Michael or else have the doctor appointed to fill both positions. If this can not be done then the bureau should by all means send in a physician. This physician could attend to the native work of the surrounding villages and also care for the white population of the town. In the summer undoubtedly the doctor could add to his salary by caring for the work of the transportation companies, who have headquarters at St. Michael.

A nurse should be appointed to visit the villages of Norton Bay; she should travel between Unalakleet and Shaktoolik. A small infirmary should be fitted up at either of these places. Whenever funds are available a doctor should be located on Norton Bay, with headquarters at Unalakleet. At present these people come to St. Michael for aid, and as their ailments are often of a serious nature and require the services of a physician, they have to call on the post surgeon, whose fees are in accordance with other prices in Alaska. These people can ill afford to pay such fees.

*Reindeer.*—This great industry is advancing by leaps and bounds, and if the bureau wishes to maintain its supervision, it will soon be necessary to appoint a man to have complete charge of all the reindeer in the country. This individual should familiarize himself with the business from all standpoints—marketing, grazing, breeding, herding, diseases, etc. I do not mean that his jurisdiction should apply to all owners of reindeer, except when it became necessary to exercise authority in dealing with diseases, branding, disposition of strays, and the approving of grazing tracts. Not only is this industry of economic importance to the Eskimo but in the near future will prove a factor in the meat supply of the States.

Nunivak Island has a grazing area of approximately 1,000 square miles. The land is hilly and well drained, has very little brush, and is covered with the finest growth of reindeer moes that I have ever seen. The nearest land is about 30 miles away and as it is seldom frozen over, the deer could not stray. I estimate that Nunivak Island would continually feed 10,000 head of adult reindeer. Being in the direct line of ocean travel, no difficulty would be experienced in getting the meat to a good market. The Government should place deer on this island at once. The Hooper Bay herd is available and could be driven to Nelson Island for transporting to Nunivak at any time.

The Hooper Bay herd will be moved to a new location, for all of the available young men in this vicinity have been taught the work and now own deer. The plan is to place the herd nearer the Yukon River for a year, unless the Government decides to place this herd on Nunivak Island.

The Government training herd at Pilot Station will be moved to Shageluk. The Kinak herd has been moved up the Kuskokwim to the eastward of Aliak. The general trend of these herds is toward the east and the Indian will be given an opportunity to again enter the industry. Critics say that the Indian will not make a good herder. Next winter the Shageluk Indians will try to prove their ability as deer men and they are now preparing for the work.

The Holy Cross Mission herd is still in the vicinity of Andreafsky, under the direct supervision of the bureau. Though the bureau has kept a close supervision of this herd there have been no surplus males to send the mission for food. This herd will

undoubtedly be turned over at the first opportunity and the mission given another chance to manage it. I believe that it is necessary that they put a competent herder in charge and pay him a salary, he to have complete control of the herd. That is, if they intend to make a financial project out of the herd and raise the deer for a profit, instead of using the herd as a training school for furthering the industry. Two trained men will do the work of four apprentices and the expense of supplying an apprentice is as much, if not more than that of a herder, consequently the Government does not make a profit on its herds but it does continually train new men and introduce the industry to new communities.

A new herd will be started by taking the herders' and apprentices' deer from the mission and Government herds near Pilot Station. This herd will be placed near Pilot Station.

The Nulato Indians were given an opportunity to become reindeer owners and herders several years ago when a herd was placed there. They did not take kindly to the industry and the deer were removed. For the last three years these people have realized their folly and have tried every means at their disposal to get deer. It has been impossible to grant their request, and they are not capable of caring for deer. However, arrangements were made whereby young men of Nulato or vicinity could enter the industry as apprentices. Several requested positions and six were placed in herds near Unalakleet. When these young men become trained herders the deer that the Nulato people had when the herd was removed from there, will be placed with the young men and a new herd will be started and placed near Nulato. At present no settlement can be made, for by virtue of their contracts they forfeited their deer when they abandoned the herd. The Government wishes to give them every opportunity to get these deer back and if the young men stick for the four years of their apprenticeship, they will receive the number that they originally owned.

Within a radius of a hundred miles of St. Michael there are seven herds. There is a tendency of herders to place their herds as near as possible to market. Regardless of grazing ground, they will let their deer remain at one place until the moss is practically destroyed. Every foot of a available coast line near St. Michael is taken up by reindeer herders, partly because of camping and fishing facilities near salt water, and partly because of easy access to market. Owing to this ready market many of the natives killed all males, even those not yet grown, because they knew that the meat could be sold. However, there are times when reindeer meat is not to be found on the market. This is generally in the spring when the deer are poor and travel is difficult because of the trails.

It is the policy of the bureau to continue to introduce deer into new sections of the country. With this end in view arrangements have been made whereby parts of the Sinrock and Angoolook herds will be moved to new grazing grounds. The bureau has promised these natives that it will do all in its power to recognize the priority rights of any man putting a herd in a new locality. This has a salutary effect on this phase of the work. When a herd is located near a village or town, the young men and herders spend much of their time visiting and do not properly care for their deer. There is less dissatisfaction and the men are less liable to sell off their young males, when the herd is not located near a town with several stores.

*Parasites.*—There are several flies that infest reindeer, the principal one being the warble fly. These flies deposit their eggs during the months of July and August. The larvae are found as early as October scattered along the back of the deer. Here they remain until May and June, when they work their way out through the skin and fall to the ground. I have been unable to determine the length of time required for the metamorphosis to take place, but I believe that the cycle is completed in one year. These larvae make holes in the skin and render it practically valueless. A deer that is covered with warbles becomes poor. There is also a fly that deposits its egg, or at least the larvae make their way into the larynx and in the spring

they are found fastened to the upper back side of the membrane. They are sneezed or coughed out during May and June. I know of no harm that they cause the deer, unless the numerous cases of "crazy in the head" that the herders report are occasioned by this parasite. So far no cure has been found, but I feel positive that proper spraying will do much to relieve the deer and save thousands of dollars to the industry.

*Fairs.*—Two reindeer fairs were held in this district last winter. The fair at Akiak was presided over by Assistant Superintendent John H. Kilbuck, while the one at Shaktoolik was in charge of the superintendent. At both of these fairs committees had charge of the detail work.

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### REPORT OF JOHN H. KILBUCK, DETAILED AS ASSISTANT SUPERINTENDENT OF THE WESTERN DISTRICT.

This report has to do with the eastern section of the western district, drained by the Kuskokwim River and its tributaries. During the year all the schools were visited three times, except Goodnews, which was reached only twice, while Bethel was officially visited four times. Besides the visitation to the schools, nine reindeer camps were inspected, one new herd established, and the United States herd of Kinak was combined with the Government herd at Kalkak. A side trip was also made to the schools at Togiak and Kulukak. Something like 1,690 miles were traveled, 330 by motor boat, 175 by dog teams, and 1,185 by deer.

In this section of the western district there are at present four fully established United States public schools, named in the order of establishment: Bethel, Quinhagak, Goodnews, and Akiak. There was a fifth school at Kinak, but it was discontinued after last year, the building being dismantled and moved to Eek. The village of Eek was founded some years ago by enterprising natives from several villages, who started out with the idea of having a school in their midst for their children. Right at the outset a site was reserved for the school buildings, an act of faith which now begins to be a reality. To this place the Kinak school building was transferred and it is now partially set up. The school property is stowed away in the cabins of the natives. The Eek village is on a river of the same name, emptying into the Kuskokwim, on the left bank, about 60 miles below Bethel. It is on high tundra, the country about it being open and stretching out in a plain to the hills at least 25 miles away. The river is fringed with stunted willows and alder, the latter being the principal fuel. Driftwood is picked up on the main river and floated up to the village, a distance of at least 20 miles. There is a rise of about 4 feet of tide at the village. When the Eek school is fully established the population will increase rapidly, as there are many families ready to move to the new settlement as soon as the school is opened.

It would be well if the department realized that this work at Eek will not be a small affair and therefore deserves substantial buildings. The present building is hardly suitable for this open tundra, where blizzards rage unbroken and untamed by timber or hills.

There is a fine opening for a school at Quigillinguk, on the bay about 40 miles from Cape Avinof. There are now fully 60 school children in the village with every prospect of 20 more shortly after a school is opened. The Moravian Mission has established a station here. The church building is so arranged that it can be turned into a school-room, sufficiently large to accommodate 50 or 60 pupils.

Each school has its own peculiar conditions to contend with, the principal one being the inadequate force. The majority of the teachers had too many scholars in crowded rooms to do good work. At Bethel an assistant was called in to relieve the situation for a few months. The teachers, however, did their best, and it is to their

credit that they were not altogether discouraged. The attendance was good and regular at all the schools, except at Bethel, where the scholars were more tardy in spite of the efforts of the teachers. The natives of this village were introduced to the white man's dance and they took it up enthusiastically. The consequence was that these dances occurred rather frequently, and as they were carried on into the morning hours, and the entire families attended, the scholars were usually in bed when the school bell rang. The threat to enforce the compulsory attendance law had its desired effect in securing better attendance.

In general, the people led orderly lives, as far as we could see, and there were no reports of drinking by the natives. Three white men concluded to quietly put away the native women they were living with when their attention was drawn to the fact that they were breaking the law of the land. A native man and woman are both under probation of good behavior after having lived together illegally.

The use of poison for catching fur-bearing animals occurs almost every winter and this one was no exception. The white man has been the transgressor. This winter poison was evidently put out near the native village of Apokak and in proximity to the trail used by the natives when going for wood. A native lost all of his three dogs while driving, because they had eaten something that they had picked up beside the trail.

There was a time when a native population of fully 3,000 occupied the Kuakokwim valley, not including the natives on what is known as the west coast, which extends along the right shore of Kuskokwim Bay as far as Nelson Island, with a population of about 1,500 souls. Beginning with the advent of la grippe in 1890, and recurring annually with the arrival of the ships from the outside, the mortality among the natives increased. In 1900 an epidemic of measles complicated with pneumonia reduced the population by one-third and left the rest in a weakened state. At the present time there may be something over 2,000 natives in this valley and the west coast.

The teacher of sanitation, Mrs. Lulu A. Evans, this year examined 608 individuals. Of this number 204 people have tuberculous histories or active symptoms, cough, rapid pulse and breathing, or hemoptysis regardless of temperature. This means that we know that more than a third of the people examined have only a limited time to live. About half of the remainder are pronounced normal, and the rest are below normal. This statement of the physical condition of the natives is alarming, but it is true to the best of our knowledge. The general health of the people this past year was about as it is usually. However, the call for medical attention so demanded the time of the nurse that Mrs. Evans was relieved from her duties in the schoolroom at Akiak. She was detailed to especially look after Akiak and Bethel, teaching sanitation in the villages and the schoolrooms. Greater results were obtained among the school children than among the old folks, the latter being more set in their habits. Special assignments were also given her to visit Tulksak, Eek, Kwigluk, Akiatshoak, and Quinhagak. She has never hesitated to go where duty called her, night or day, through rain or snow, cold or heat.

The annual reindeer fair occurred in January. The interest in this midwinter event was as great as when it was introduced four years ago. There were spectators from as far away as Iditarod. The prizes, furnished by local merchants, were numerous and valuable enough to excite the keenest competition. Everything passed off well. The court had many questions brought up for decision, and the jury is to be congratulated for the impartial decisions it rendered in every case. The competitive examination of apprentices as to the care of deer and a herd was a new feature of the fair. The chief herders also formulated an experimental course of training for apprentices, for the full term of apprenticeship.

*Recommendations.*—1. That the herds at Togiak and Kulukak be combined, with headquarters at Kulukak. The two herds together would make one good herd, and reduce the expenses.

2. That the Goodnews herd be transferred elsewhere, where the distribution of the deer to the natives could be carried on. The natives of Goodnews do not take to the reindeer industry, and probably never will.

3. That new schoolhouses be built at Akiak, Bethel, Eek, and Quinhagak as soon as possible. At Quinhagak the United States public school is in a rented building. All the buildings at the above places are no longer adequate to hold the school children comfortably, and no teacher is able to do good work in crowded quarters. The school is an attraction to the natives in outlying villages and hence they are moving to them. The schools at Akiak and Bethel will require three teachers in the near future.

4. That the new schoolhouses be made of logs, which are abundant in this region. By dressing all four sides of the logs a very neat and substantial building can be erected. There will be a great saving of fuel. Here at Akiak there is a log schoolhouse and a frame one, the original school. The log house requires about seven cords of wood while the other one will use up 25, and then not be comfortable in cold, windy weather.

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### REPORT OF ARTHUR H. MILLER, ACTING SUPERINTENDENT OF THE SOUTHWESTERN DISTRICT.

Inspecting the work of the schools in the Copper River, Prince William Sound, and Cook Inlet regions, I have travelled by train, boat, automobile, stage, dog-team, and on foot more than 4,000 miles, covering only a portion of the district.

The question of extending the work of the Bureau of Education in order that it may reach and serve the needs of natives remotely situated from the Government schools now established, appears to me of paramount importance. To attempt establishing a school at every point where a village of 50 or 60 natives is located does not seem to be a solution of this question, nor good policy.

Until the natives living within a radius of 40 or 50 miles of the schools already established avail themselves of the benefits of these schools, it hardly seems good business policy to go to the expense of maintaining numerous small schools. Conversely, the schools now maintained should be equipped in such a manner as to justify the native to come to the Government school and have a means of making a living for his family. Then, after we have offered the natives an opportunity to work and earn a livelihood, the responsibility is not with the Bureau of Education if they will not take advantage of it. We believe if it were possible to add departments of industrial education to the schools at present maintained, such as boat building, carpenter shops for the making of furniture, shops for the manufacture of sheet-iron stoves, equipment for the salting and canning of fish, that the question of getting the natives to move from some distance to the schools we now have would be solved.

If the fund so expended could be made reimbursible, so that the product of the natives' labor could be sold, I believe the natives would thus become self-supporting within a reasonable number of years.

It would be difficult to overestimate the great service the Bureau of Education has rendered in establishing by Executive order, land, fishing, and reindeer-grazing reserves to be used for the benefit of the natives. At Tatitlek, where the fishing reserves have been secured, the income of the natives has greatly increased.

At Tyonek, the Moquawkie reserve has increased the income of the natives from a mere existence to several thousand dollars each year. This will, I believe, insure the success of the Native Cooperative Store. The natives at this place feel much encouraged, and have already expressed their willingness to raise a thousand dollars among themselves to start the store. This amount, with \$800 the teacher has consented to loan them, and the snowshoe industry already established, should give the natives at Tyonek a working capital of more than \$2,000

If the fishing output at Tyonek could be sold directly to the consumer as a finished product the financial question would be solved for that village, but the lack of harbor facilities is the one hindering factor to be overcome.

I first visited Tyonek four years ago. At that time an epidemic of measles had just ravaged the natives and their condition was wretched. Too much credit can not be given to those who were instrumental in securing the reserve for the natives, which marks a new era for them.

We believe the time is rapidly approaching when the exploiting of Alaskan natives will be a thing of the past. Though there yet remains much to be done, no one who has known Alaskan natives for a considerable number of years doubts that advancement has been made among them where schools have been established and proper Christianizing influences have obtained.

The plan of centralizing the population would materially assist in the administration of medical relief and adequate supervision. The doctors now under regular appointment can not reach the scattered natives. The doctors as well as the teachers, as far as my knowledge extends, are conscientiously performing their duties. It is no more than just to say that though there are many cases of mistreatment and injustice done the natives by a certain class of undesirables, there are many instances of kindness and assistance rendered them by a majority of the citizens of Alaska.

I desire to call the special attention of the Commissioner of Education and the Chief of the Alaska Division to the need of establishing a reserve for the natives of the Copper River. In my opinion too much emphasis can not be placed upon the importance and value of obtaining this reserve.

*Relief of Destitution.*—The scarcity of fish and game in the Copper River Valley has caused a general destitution never before known among the natives and made it imperative that something be done to relieve the condition. Consequently, this phase of the work at Copper Center has been forced upon our attention as a first consideration. In order that a policy of merely distributing rations be avoided, it was thought best that all able-bodied natives should be required to do work in return for what was given them; only needy widows, orphans and the sick were supplied with food free of charge.

Approximately 8,500 pounds of supplies were sent from Seattle and in return for these supplies the natives, under my direction, cut the logs, hauled them to ground adjacent to the Government school, erected a substantial log building, 22 by 32 feet, 12 feet high, and whipsawed the lumber for the rafters. The bureau sent from Seattle, the doors and windows for this building and sufficient roofing for the same. The logs are all in place, the openings for doors and windows cut, door and window frames whipsawed and put in, and the rafters up and braced. When this building is inclosed, which should be done this fall, it will be a creditable looking edifice suitable for a public meeting place in which the natives may hold their council meetings or a splendid building for a cooperative store should the natives become prosperous enough to start one.

In addition to putting up this building, the natives have built about 1 mile of excellent fence along the Government road from the experimental farm buildings to the Government school, adding greatly to the appearance and utility of the Government reserve. By doing this work we have not only been able to relieve the destitution among the Copper River Indians, but have at the same time received labor equal in value to the amount expended for destitution supplies.

I have thus been able to give them instruction in carpentry and building. The natives have taken interest in their work, and we believe it reflects great credit upon them. These natives are excellent axemen and loggers. All they need is the opportunity to be developed into useful citizens.

Very little has been accomplished during the past year in the teaching of sewing and cooking, because no woman teacher has been at Copper Center. In response to

the request sent out by the chief of the Alaska Division, asking the natives to plant gardens in order to add to the food supply because of war conditions, the people of Copper Center, Upper and Lower Tonsina have planted larger gardens than ever before.

Each year shows advancement among these natives in cleanliness in their homes and in keeping their yards free from garbage, but there is much room for improvement in the proper ventilation of houses during the winter months.

Diseases have been treated by the medical sergeant of the Army, James E. Young, who has conscientiously administered medical aid to all natives calling at the Army Hospital. In a number of instances he has made trips to the native villages and treated serious cases of sickness with good results.

No deaths have occurred during the year at Copper Center, but five deaths have been reported to us from other points on the Copper River—one at Tazlina Lake, two at Lower Tonsina, and two at Gulkana. Seven births have been reported—four at Copper Center, two at Lower Tonsina, and one at Upper Tonsina.

Centralization of the population, I believe, is the only practicable method for the care and education of the Copper River natives.

If the fishing resources of the Copper River can be conserved for the benefit of these natives, sufficient funds may thereby be derived to establish industries whereby they may be provided with work to earn their living and assistance rendered for the building of suitable homes and a model village established on the splendid site adjacent to the Government school.

The observance of law and moral conditions is well maintained during the teacher's term of residence, but as soon as the instructor leaves the place delinquencies are nearly always in evidence. This is the principal reason why I recommend that a teacher be appointed for 12 months in the year.

In none of the villages I have visited have the natives yet availed themselves of the opportunity provided by the Territorial legislature of becoming citizens. At Copper Center four or five of the young men are preparing themselves to take the examination required, and I believe it is only a question of a few years when many of the younger men will do so in many of the villages.

Estaco Ewan, the assistant teacher, is a product of the work of the Bureau of Education at Copper Center. At the expense of this bureau he was sent to Juneau a few years ago to be operated upon for a tubercular leg. This operation probably saved this young man's life, permitting him to return to Copper Center and attend the Government school where he reached the studies of the seventh grade at the age of 15. He has not only done good work as assistant teacher during the past school year, but the work has been a decided benefit to him, stimulating in him a feeling of commendable pride in assuming the responsibilities of a teacher and awakening in him a realization of the value and benefits of education.

#### CANNERY INTERFERENCE WITH FOOD SUPPLY.

Owing to the decided shortage in the supply of salmon, the natives of the Copper River have found it proportionately difficult to obtain their living during the year just past.

I have succeeded in securing employment for a few of the Chitina natives at section work on the Copper River & Northwestern Railroad. About 20 Copper River natives find employment at the canneries, but most of them live such a great distance that it is a very difficult matter to get them to and from the canneries. This can readily be done on the coast, where the cannery companies send boats for them, besides supplying them with boats and gear. It is not only expensive for the Copper River natives to get to the canneries, but also expensive for them when returning.

The Copper River Packing Co. agreed this year to transport the natives to the cannery from Chitina and after the fishing season closed to return them to the same point



by train, which would have been a material advantage to the natives, as it would have made it possible for them to get to the cannery in time to get equally good fishing locations with the white fishermen. After I had completed this arrangement and secured a number of native fishermen for them, the company entered into negotiations with the chief of the Chitina natives, making it an inducement to him to bring the natives down the Copper River in a boat. After bringing them to the cannery by this method, with no expense to the cannery, the natives were obliged to get home the best way they could. This, of course, was done by the company to avoid the expense of getting people to and from the cannery rather than to meet the more exacting requirements made by the writer in favor of the natives.

In this report I shall not treat in detail the subject of cannery interference with the native food supply, which was discussed at length in my report of June 30, 1916, but merely state that conditions as therein set forth are increasingly worse during the present fishing season and deal briefly in a general way with facts that I personally observed at the fishing grounds only a few weeks prior to this date.

During the present year two additional cannery companies have entered the field and are fishing in the waters of the Copper River on an extensive scale with modern gear and equipment, and now the Copper River Packing Co., the Carlisle Packing Co., the Northwestern Fisheries Co., and the Canoe Pass Packing Co. are all fishing in the waters of the Copper River above the delta and as far up as Mile Fifty Five.

I am encouraged, however, by the fact that the Bureau of Fisheries has sent a special investigator to inspect the fishing operations in the waters of the Copper River during the present fishing season. This representative of the Government, Dr. Gilbert, of Stanford University, the writer interviewed in Cordova, Alaska, only a few days ago, presenting in detail to him the subject from the standpoint of the natives.

The fact that the Bureau of Fisheries has taken cognizance of conditions on the Copper River not only through careful and thorough investigations by its regular representatives, but also by sending a special investigator this spring to survey conditions in these waters, seems encouraging evidence of a purpose to get at all the facts. I am of the opinion that the Bureau of Fisheries will take the inevitable action of closing the Copper River to cannery fishing, in order to prevent the depletion of the supply of salmon and reserve the waters, subject to careful regulation by Executive order, for the benefit of the natives, who are first entitled to them.

I believe it behooves the Bureau of Education to use all honorable means to conserve the fishing resources of the Copper River for the natives, because of the constantly increasing burden of caring for destitute natives as a matter of policy, but also for the more valid reason of saving this race of people from certain decadence and extinction. With the funds that may be derived from the leasing of these waters, the Copper River natives may be provided with industrial training and education that will during the life of a 20-year lease develop them into a worthy and self-supporting people.

I therefore most respectfully and earnestly urge that renewed and vigorous effort be put forth by the officials of the Bureau of Education toward securing the necessary action to close the Copper River to cannery fishing, reserving that portion of its waters described in my report of June 30, 1916, for the natives, to be leased with its fishing rights in the manner therein set forth and the funds derived thereby expended for the care and education of the Copper River natives.

**REPORT OF CHARLES W. HAWKESWORTH, SUPERINTENDENT OF THE SOUTHEASTERN DISTRICT.**

The monthly report cards, forwarded by the teachers of the 14 schools in the district, show that we have administered to the educational, social, economic and moral needs of 3,335 natives of Alaska. These are listed in tribes as follows: Thlingets, 2,467; Tsimpsean, 534; Hydaburg, 334.

From this total population of 3,335 in the district, 1,050 have been enrolled in the 14 schools.

During the school year of seven months, which is the period of time covered by the report cards, we have had 73 births and 127 deaths. These deaths were due mostly to the epidemic of measles that spread throughout Southeast Alaska during the months of January and February. In Hydaburg alone during the school year there were 28 deaths. It is our aim to secure as accurate a record as possible of the vital statistics of natives for the entire 12 months, and thus to ascertain beyond a doubt the increase or decrease in the native population of Alaska.

The entire force of the bureau in the district during the year consisted of 1 superintendent, 1 doctor, 5 nurses, and 28 teachers. The teachers, of necessity, are required to be specialists in kindergarten and primary work, for the reason that 35 per cent of the total enrollment in the district consists of kindergarten children; 38 per cent are in the first and second grades, while only 20 per cent are in the third and fourth grades, 4.8 per cent in the fifth and sixth grades, and only 2.2 per cent in the seventh and eighth grades.

In order to start a uniform school system, we introduced Thompson's Minimum Essentials last fall, and worked the same papers in all of the schools, but this was only one step toward grading. Another step was the school fair at Metlakatla. Our aim was for each of the 14 schools to keep every good piece of work done in any of the varied branches during the year and forward the same to Metlakatla on Washington's birthday for the school fair exhibit. We had planned a contest for the same time between the schools of Metlakatla, Hydaburg, and Klawock, in order to bring those three most progressive schools in the district into closer fellowship, and through good-natured competition in spelling matches, arithmetic tests, prize speaking contests, as well as contests in athletic events, to create a pride in the local schools and arouse enough interest to keep the older boys and girls at home rather than go away to the Indian schools in the States.

The Metlakatla fair, considering the fact that we had most unpleasant weather during the week, was a great success. The entire teaching staff from Klawock, with their most promising pupils, came, also the teaching staff and members of the school, as well as the Boy Scouts squad, from Hydaburg. No greater incentive has ever been given to these three schools than that of the fair. All the advantages of a teachers' conference we had, plus the additional advantage of the boys and girls seeing what others had actually accomplished. All were amazed at the nautical knowledge of the Boy Scouts from Hydaburg in tying some 20 different kinds of knots. Their ability in first-aid work, so necessary in this hour of the world war, and their ability to use the commercial telegraph, won the admiration of all. The prize-speaking contest between Metlakatla and Klawock brought to mind that the natural oratory of the Indian is by no means lost when the boys and girls speak in English.

I have seldom, if ever, heard Lincoln's Gettysburg Address, or the great speech of Patrick Henry, given with more convincing power than when those orations were delivered by boys from Metlakatla. The Klawock contestants at the fair were much younger, but showed excellent strength. Their exhibit was readily granted first place by the judges, and their prize speaker, a young girl of 12 years, won the first honors of the fair, a gold medal, in the prize-speaking contest.

An additional incentive brought out by the fair was that the schools could have bands. Practically every native town in Southeast Alaska has its band. We sug-



**A. METLAKATLA. THE GIRLS' BASKET-BALL TEAM.**



**B. METLAKATLA. SOME OF THE YOUNG MEN.**



A. THE NEW CANNERY AT METLAKATLA.



B. OATS AT KLUKWAN, IN SOUTHEASTERN ALASKA.



A. UNITED STATES PUBLIC SCHOOL, WRANGELL.



B. TEACHER'S RESIDENCE, HYDABURG.



**A. TEACHERS FOR THE SCHOOL AT WAINWRIGHT AND THEIR FUTURE NEIGHBORS, LEAVING THE U. S. S. "BEAR."**



**B. UNITED STATES MAIL CARRIER, UPPER YUKON DISTRICT.**

**Except during the season of open navigation in midsummer, mail for the schools in the interior reaches them over frozen trails.**

gested at the fair that a teacher could get his pupils to school at any hour he saw fit, if he offered an incentive. Mr. Hibbs, of Klawock, organized a school band as a result of inspiration received at the fair, and had it meet from 8 a.m. to 9 a.m., and the boys were all on time.

These boys had never played any instrument, but by the end of the year he had trained them so well that they played an orchestra of 16 pieces. This shows that in order to increase the 7 per cent attendance in the grades from the fourth up, we must offer an additional inducement, and if the schools can take the bands of the towns it will greatly assist.

Not only is there the benefit to the schools of such an organization, but it is a physical development to the individual as well. We must start a campaign to create a stronger body for the natives. It is evident to any Alaskan that natives as a race are weaker and have less physical endurance than they had 30 years ago. One reason is that they have not learned the white children's system of play. Confined too closely in the schoolroom without sufficient outside exercise many of the weak-chested boys and girls decline in health.

The industrial development of Metlakatla continues with gratifying success. The sawmill that was supposed to be absolutely beyond use, with an outlay of only \$23,07 for repairs, has cut and sold \$2,001.48 worth of lumber. The water line is extended throughout the town and into the school building. The new cannery is being built with lumber cut at the local mill, and native workmen are furnishing the labor. The town is well united in its aims for progress, and we are all much encouraged over the prospect for an industrial and educational center at Metlakatla.

With a trade school established in Metlakatla, also a weekly school publication, with local correspondents in each of the 14 towns of the district furnishing reports of local events, a brief account of current events, and with articles of instruction contained in each weekly issue, I see a most valuable field for intensive instruction. I would have the publication sent into every Indian home in Southeast Alaska, and I am certain that since ours is the age of the written rather than the spoken word, we would give more real instruction to the 3,335 people living in the district than is possible in any other way.

The Metlakatla Commercial Co., which came into existence last year, has built a big store on a strategic corner in the town. Its first few months of business were most discouraging. It now has a paid up capital stock of more than \$7,000.

The lumber business at Hydaburg has also been considerably larger this year than ever before. The mill there shows a sale of \$4,029.37 in lumber. The lumber market in Seattle has raised the prices so high that the canneries are demanding Alaska lumber now, while only two years ago they could get Oregon fir delivered at the canneries cheaper than the Alaska mills could furnish.

A new incentive has come to Klawock in getting an additional section of the town surveyed and a post office established in the native town. This has been badly needed during the past years.

The towns of Hoonah and Kake, which have been more steeped in tribal customs than most of the other towns of the district, are manifesting a worthy pride. They have cooperated and plan to join the Forest Service in surveying the towns and building roads. Both are almost a mile from their canneries, and both have agreed to furnish the labor to build the proposed roadways if the Forest Service would furnish the material. Tribal homes along the water front are customary in Kake and Hoonah. There are no lots surveyed behind these shore lines, consequently the people, of necessity, are forced to live in houses consisting of one big room, in which are some eight beds in full view of all in the room. The chief of the Forest Service, Mr. Weigle, of Ketchikan, whose most valuable assistance to our work I wish to acknowledge, has

assured me that these two towns would be surveyed in the fall. I am looking for great progress at both Kake and Hoonah.

Regarding Indian lands—a matter which has been brought to the knowledge of all teachers and the superintendent through Circular No. 491 of the General Land Office—I have to report that I have made an intensive application of the law in each town I have visited.

The natives are accused by various white men and by some of the Land Office officials of retarding the development of Alaska. When a settler applies for a homestead and builds his cabin and plants his garden, a native comes there and claims the ground because of former occupation. We readily see the reason of this; an Indian, naturally, does not take any step toward making a recorded claim for an allotment until he sees the white man on the land.

In order to offset this custom I have urged all natives who claim land to get their corner posts set, their notices up, and their applications in the Land Office at once and thus anticipate any future claim by white men.

I have proposed to the Land Office officials that a time limit be set, say until 1920 or 1921, offering to the natives during that period every opportunity to enter a claim in the Land Office for all land ever used by them. After that date they would receive no special favors. From that time on, if they wished to apply for an allotment or homestead, they would have to enter their claims the same as white men.

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## SECTION 2.—REPORTS BY PHYSICIANS.

### REPORT OF DR. JAMES P. MOONEY, JUNEAU.

These two villages of Juneau and Douglas I do not regard as typical, for the reason that there is too much contact here with outside influences. What the natives need is help, not hindrance. Get them out in the open more and give them the benefits of our knowledge of sanitation and public health and you will have done much for the natives of southeastern Alaska.

Our hospital is new, and it will be some time before the natives learn to appreciate its full value. But judging by the way they have patronized it, there will be need of extra accommodations before next fall.

Last November and December we had an epidemic of measles in the village, and very few of the children escaped, but, on the whole, there were few complications. Some of the other villages suffered more than Juneau, and yet I am sure there were many fatalities that were only hastened by the inception of measles. On the whole this has been a fairly good year as regards health conditions.

Our hospital has been full most of the time since the 1st of October, and many times the women's waiting list was two weeks in advance. The men's ward was not so crowded, as a rule. We had 164 admissions up to the writing of this report, representing 3,476 days of treatment. A great many willingly paid the small charge for board—at least 60 per cent. In fact, those who paid were the ones who seemed to appreciate the most what was being done for them. There were 1,750 clinic patients, besides many out calls made in the villages.

During this time I have performed operations as follows: Thirty-two laparotomies, 3 hernias, 2 kidney operations, 3 gall-bladder operations, removing 71 gallstones from one and 23 from another, and removing the gall bladder in still another; 3 amputations, 3 bone cases (resections or parts of humerus, etc., all tubercular). In three instances I removed all the glands of the neck, and two others only part. There were several cases where a gland here and there had to be removed, sometimes under local and sometimes under general anesthesia. There were also 4 curettages, 4 circumcisions, 2 cases of perineorrhaphy, 1 cystocele, 1 radical mastoid, and 1 antrum. There



were numerous minor eye operations, besides 5 major ones, as cataract, enucleation, etc. There was one case of ununited fracture of rib that was anchored, with good results. There have been many cases of tonsils and adenoids that were operated upon and taken home in the afternoons, aside from the 11 cases that were entered upon my register. There was also one case of external urethrotomy.

The above does not include the numerous cases of minor surgery that were done in the clinic under local anesthesia, such as removal of the nasal septum, turbinates, lipomas, amputations of fingers, etc.

We have many interesting medical cases, and some very sick ones too, but with few exceptions they have responded to nursing and treatment. I have in mind one case of malnutrition and gastroenteritis that recovered, and, if there had been no other, the saving of this one little life would justify the expenditure of energy and funds on the part of the bureau. I am looking forward to the time when we may have a training school for the young native girl, in order that she may be fitted for work among her sisters and brothers. With this in mind, I am submitting a plan for enlargement, part of which we have needed from the first and a part of which we will need during the busy winter months, and still another part of which will be needed when we have a training school.

#### REPORT OF DR. DANIEL S. NEUMAN, NOME.

The following individual cases were treated in Nome: Bronchitis, 173; rheumatism, 134; conjunctivitis, 77; influenza, 38; separative otitis media, 23; keratitis, 20; foot and mouth disease, 15; snow blindness, 13; menorrhagia, 3; endocarditis, 1; syphilis, 1; gonorrhea, 1; gastric dilatation, 1; prostatic abscess, 1; accident cases attended to, 104; confinement cases attended to, 3. In addition to the above there were a good many minor cases which were not recorded because of their insignificance. Eighteen patients received hospital treatment, three of whom were tubercular. One patient was operated on for extra uterine pregnancy; one curettement (puerperal septicemia); one operation for mastoiditis; and one fibroid tumor (uterine) was removed. All surgical cases recovered. During the year 1,500 day and 63 after midnight visits were made to the native homes of the sick; patients receiving attention at my office numbered 3,604; school children examined, 42; visits made to the hospital, 378.

During the year not a single new case of tuberculosis developed in Nome. The additional cases were out-of-town patients. Rheumatism showed a decrease over the previous year, while bronchitis increased, which was due to the severity of the past winter. There were a few serious accidents, but all cases recovered. There was an entire absence of any skin diseases in Nome, although a few cases were treated from other villages. Venereal disease was also on the decline. The natives have begun to take better care of their eyes in the springtime, which accounts for the decrease of snow blindness. There were nine deaths during the year.

The hygienic condition of Nome village is gradually improving. The natives are becoming more employed in the white man's occupations such as mining, freighting, carpenter work, painting and the like.

The Holy Cross Hospital rendered excellent service during the past year, and the majority of native patients were furnished with a private room, which is always preferable to a crowded ward.

With the advance of civilization the natives move away from the Sandspit and scatter all over the town. This feature makes the work more difficult, and more and more time is required, as each year passes, for a physician to render efficient service. But this can not be remedied, and there is no question in my mind but that in a few years the entire Nome village will disappear, and the melting pot of civilization will not only remodel these people, but will entirely absorb them.

*Recommendations.*—(1) My laboratory work has proven conclusively to me that every patient who suffers from repeated, severe attacks of rheumatism invariably is troubled with an advanced stage of pyorrhoea. I believe it is our duty to pay more attention to oral prophylaxis, and all natives should be supplied, not with a cheap and worthless toothbrush, but with a brush with good bristles, having a sufficient amount of stiffness. I would also recommend the use of some good tooth paste. All of my rheumatism patients have been greatly benefited by proper attention to the teeth and the gums.

(2) We should be authorized to exclude from school all children suffering from tuberculosis.

(3) As a good many of the Nome natives are doing well and are more than self-supporting, I believe it is inadvisable to continue free treatment and free medicine. Some schedule should be worked out, charging a small fee for both, which should go into the treasury of the Bureau of Education.

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### REPORT OF DR. FRANK W. LAMB, NULATO.

A great improvement in the sanitary conditions of this village is manifest. For the past two years all drains have been redug at breakup time and antiseptic solutions sprinkled around the village. All low places were treated with chloride of lime, refuse matter of every description which had accumulated during the long winter months was carted off, all débris burned, and yards and streets raked.

It has been necessary to hire a native to do this work, as at this particular time the natives must move to the lakes for their spring trapping, not returning until June. The people have promised to build their dog kennels at the back of the town before next winter, which will greatly add to the cleanliness of the settlement.

The natives are exhibiting a marked improvement in the care of their dwellings. After thorough and painstaking effort I have succeeded in making them understand that overcrowding and poor ventilation are injurious and dangerous. Many of them have built bunks in which they now sleep instead of on the floor as has been their custom for many generations. There is still, however, room for great improvement in their habits.

Strange to say, the most unsanitary building in the village is the council house, where all public gatherings are held. I advise the destruction of this building this fall or at least a thorough overhauling before the winter activities begin.

All tubercular cases, with the exception of one bed-ridden case, are in fairly good condition. Patients are careful to use sputum cups about the town and in their homes.

The winter of 1916-17 was not so hard for the natives as was anticipated, most of them finding employment cutting wood and the fur market being fairly good. The spring catch of muskrats was also good.

During the past winter I made several trips to the native villages of Melozi, Lewis Landing, Loudon, Koyukuk, and Kaltag, and one trip to Tanana, on which occasion I visited all native villages en route. I also visited the reindeer fair at Shaktolik, where I had an opportunity to examine many of the natives of the lower Yukon country. Here I found the same prevalence of tubercular cases as in the upper country. I instructed these natives as to habits and hygienics. On my return I brought with me a small native boy who had sustained a fracture of tibia. After recovery he returned to his home in Shaktolik.

Among the many cases treated during the past year were one of typhus, one of scorbutus, and two fractures of tibia. The following cases were operated on with success: Appendicitis, anal fistula, fistula following appendicitis, and several cases of lacerated cervix and perineum. Several abscesses have been opened and drained and countless minor injuries treated. Fifty-three natives and seven whites were

admitted to the hospital during the year. Vital statistics show 21 births and 10 deaths in the villages of Nulato, Kaltag, Koyukuk, and Louden since July 1, 1916.

I recommend that an addition, including an operating room, be built to the hospital, also that a cabin be built or rented for the treatment of advanced cases of tuberculosis. I recommend the expenditure of a small sum for the purchase of enough lumber for two toilets and the digging of two drains, also that several barrels of lime be furnished to be used in whitewashing and to be sprinkled about the town in the spring.

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### REPORT OF DR. F. H. SPENCE, BARROW.

(Presbyterian missionary employed by Supt. Shields to visit coast villages.)

Soon after the U. S. S. *Bear* left here last year an epidemic of grippe prevailed for five or six weeks; nearly every one in both villages had it. It was a busy time for one doctor with 500 people to look after, most of them sick. Some of our supply of medicine for a year was three-fourths gone when the epidemic was over.

At the request of Walter C. Shields, superintendent northwest district, I made a visit to Wainwright in March, where I was almost as busy as when here, and even more successful. Cases came from the reindeer herd, from Icy Cape, and Point Franklin. One very interesting case of eye strain from Icy Cape has since come up here to be with me longer, and is improving.

I am glad to be able to say we are not troubled with trachoma here. We have many cases of snow blindness and conjunctivitis, some of them very severe, but where we can obtain the active cooperation of the patient the result is good. A few cases have resulted in a scar and consequent partial loss of vision because of neglect of treatment. Attempting to alleviate pain by cutting is a custom among these people. One woman lost her sight because she had a native make a deep incision over the eye for pain, and I did not learn of it until the sight was lost. We are trying to put a stop to this, but the old "Devil doctor" dies hard.

During the year there have been 28 births and 17 deaths. Seven of the 17 I never saw or knew they were sick until they were dead and buried. All of the seven were at the upper village at Point Barrow with which there is no good means of transportation. When I go up there it means six or eight hours out of the day. Last summer when we had the epidemic and so many were sick here it was not possible for me to take care of those here and those at the Point, so I had them bring the worst cases down here. Because the people in the upper village have not had the advantages that the people have here from your bureau they do not realize the value of human life and are careless and indifferent. There were eight deaths there this year, and only one had any medical attention.

A subauthorization of \$50 to be used for food to be given the sick has been a great help during the year in many cases.

During the year I gave a stereopticon lecture on tuberculosis, assisted by Mr. T. L. Richardson, the teacher, using slides furnished by the National Association for the Study and Prevention of Tuberculosis. I also gave three talks on tuberculosis, based on "What You Should Know About Tuberculosis," prepared by the above society and distributed by the Bureau of Education, Alaska School Service. I have also given numerous other talks on hygiene and sanitation. Last week Mr. T. L. Richardson also gave a talk on the above subject.

## SECTION 3.—REPORTS BY TEACHERS.

ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT  
KIVALINA, ON THE SHORE OF THE ARCTIC OCEAN.

BY H. D. REESE, TEACHER.

We arrived at Kivalina on September 16. Had we been two days later we very likely could not have gotten from Kotzebue until after the freeze up, as storms set in the day after our arrival and continued the rest of the fall.

We discovered that the school supplies for the year were not here. A native informed us that the steamer could not land them because of storm, that it had taken them north, reloaded them, and that they had at last been landed at Point Hope. Some natives volunteered to go after them. They got ready two skin boats and crews, but three weeks passed before the weather indicated safety for setting out on the trip. Because of severe storms they were four weeks in making the trip. They experienced a very rough voyage, and were compelled to land their cargoes and make camp many times. At last on the 5th of November, with the temperature 15° below zero, they arrived here. Winter had already set in in earnest and several hard blizzards with plenty of snow had overtaken them.

About the middle of October the natives began coming in from up the river where they had camped for the fall fishing. School was opened on October 16, and was in session until April 20. The migration to the whaling grounds forced the closing of school at that time. The total enrollment for the term was 53; the average daily attendance, 29. Every child of school age in the community and several adults were in attendance. In previous years children between the ages of 3 and 6 years were enrolled. We enrolled only three under 6 years of age. We did not believe it in any way advantageous to the small children to attend school in a room already crowded and with only one teacher. The very small children retard the progress of older pupils. Neither did we enroll any of the married people, as we did not consider schoolroom work of value to them, their duties at home preventing their attending a sufficient time to learn reading or any other subjects taught in regular school work. The attendance of pupils who lived in the village could not have been better.

The school is the center of their social activities, and there is no other place in the village where they can all get together. The weather along the coast here is not favorable for outdoor play, so the schoolroom is the place where the children and young people wish to be. In fact the only way we can keep them out at any time is to make hours during which the schoolroom is not open to them. They enjoy and take a lively interest in school work.

Our people are scattered over a wide region. During the past winter only 10 cabins were occupied in the village, while 11 houses were occupied at the reindeer herds and 6 others on the coast and rivers from 12 to 40 miles distant from the village. Two of the reindeer camps were 35 miles each and one about 70 miles from the village. There are but few children in these outlying cabins and they get to school from one to two months each year.

With the increase of reindeer and number of herds more people leave the villages for the deer camps. Surely the reindeer camps are the proper places for the homes of the herders and their families. But this presents the problem of keeping the children in school a sufficient length of time each winter. The houses at the village are so small and overcrowded that it is not advisable to have these children move in with the village people. We expect that next winter a couple of the reindeer families will live in the village and keep these children.

All the young people in the community can speak, read, and write the English language. The children of school age have a sufficient knowledge of English to converse in that language. The past winter two pupils reached the sixth grade

and nine the fifth grade. To assist the pupils in getting a better understanding of the English language, we did two kinds of language work. One was the keeping of diaries. Diaries were kept by third, fourth, fifth, and sixth grades. Diary writing is an excellent form of language work, as it compels the pupils to think and express their thoughts in English. The pupils like diary writing and there is much rivalry in each grade to see who can write the longest and best diary. Some of the pupils are very good diarists, and record not only incidents of the day but their thoughts and opinions as well. They try to use in their diaries the new and big words which they learn in their reading lessons. Sometimes in order to work in some big word the language used to express the thought is far-fetched. Nevertheless it is very good practice and is a great assistance in teaching the pupils to write and speak better English. The other form of language work was the writing of Eskimo folk stories. This work, too, was taken up by the third, fourth, fifth, and sixth grades. Some days each pupil would select an old story, write it and read it in class. Sometimes one pupil would tell the story in the Eskimo language and the class would write it in English. To vary this work occasionally an English story would be translated and read in Eskimo by a pupil and the others would translate back into English. Then the twice translated version and the original would be compared. Sometimes much hard thinking is done by the pupils in order to get the most suitable English word. They like this work very much and it is a rich field for language work, as there seems to be no end to the number of old Eskimo stories. However, many stories can not be used, as they contain parts which are obscene in thought and words. This same objection makes it impossible to use in this work the Eskimo songs. For the small children we made in school the reading charts used. An advanced pupil made drawings and other pupils with the assistance of the teacher made sentences suggested by the drawings. A pupil would then print these sentences. To add a little zest to these sentences sometimes an Eskimo word would be put in. The children read these sentences with vim and they quickly learn them.

A branch of work in which we got good results was sewing. Fourteen girls did regular work in this branch. In regular class work 28 dresses, 12 aprons, many handkerchiefs and towels were made, 17 pairs of mittens were knit, and much lace was made. Besides this the girls and women made many articles of clothing on the school machine, of which we kept no record, as it was not regular school work. At first neat cutting, fitting, and sewing did not count for much with the girls; new material and colors were everything. Untidy seams and fittings were done over until care was practiced.

In cooking, all girls who were large enough were instructed in making bread, biscuit, and doughnuts. Nearly all the women of the village can make bread, but it is not much in evidence owing to lack of flour and poor facilities for baking in their homes. The school girls often bake in the school kitchen for the village people. Biscuit making is the favorite way of using the flour. The school girls display their ability as cooks to the people of the community by preparing and serving a Thanksgiving Day dinner. Thanksgiving Day rivals Christmas with our people, the chief celebration being a big dinner. The dinner is prepared and served at the schoolhouse and the entire community is on hand to do it justice. The food is furnished by the natives and all kinds of native foods and white man foods which can be procured are in evidence. Usually a reindeer for the occasion is presented to the village by some native. Last Thanksgiving the girls made noodles and stewed them with the meat. They also baked bread and biscuits and made doughnuts. Then the women brought all kinds of native foods, which they prepared at their homes. Especially favorite dishes for the dinner are muktuk (whale skin) and berries mixed with oil and reindeer fat until foamy and then partly frozen (Eskimo ice cream). All natives vie with each other in displaying their capacity as eaters. This is a social event anticipated all the year.

The workshop is a great boon to the village. It is in use nearly every day throughout the year. Sleds, kyaks, stoves, tables, chests, stovepipes, ice picks, spears, fish traps, tinning, and all manner of things are made. The village council takes care of the shop and makes an effort to see that shop and tools are used properly. This, however, is not an easy task to do, as the natives are very careless in using tools, and good tools do not remain such long. It is surprising, though, to see the good workmanship the natives accomplish with poor tools. The lumber sent for the shop work is still at Port Hope. So we had nothing but a few boxes for the schoolboys to practice on. They made of these boxes chests for themselves, also a chest for each of the large girls. The shop has never been completed. The walls are but one thickness of lumber and every blizzard puts much snow into the place. It is also hard to keep it warm.

Enough shingles are here to cover roof and walls; nails and building paper were put on last December's requisition. If we get these materials we can complete the shop, and thus save much fuel.

The bathroom is a source of much enjoyment and help to the pupils. Every Friday afternoon and evening the girls bathe; every Saturday afternoon and evening the boys bathe. The other people of the village bathe occasionally, but each one can not bathe often. It is impossible to melt snow and ice with our limited facilities to make sufficient water for the whole village to bathe often. Even to get sufficient water for the school children and three or four of the adults each week, we begin to melt snow Monday morning and keep at it all week. A limited amount of laundry work is done each week in the bathroom. This work we limit to the young people who are in attendance at school.

Some people frequently requested at first to do the family wash there, but because of the small amount of room, we loaned them tubs and told them that the family wash must be done in their homes. Even with the young people we permit them to wash their clothes in the bathroom rather than encourage it. The fact that when they wash clothes in the bathroom they usually take a bath in the water first may give some idea as to how water is valued here. It takes much fuel to melt the snow and ice, and fuel is a very valuable and highly prized commodity here. Also, our supply of coal directs our policy in connection with school, kitchen, and bathroom.

The School Republic has been in successful operation here for several years. The large number of young men and young women in attendance at school is a very favorable condition for its success. The officers consist of president, vice president, judge, two peace officers, two health officers, two commissioners of work, and a truant officer. The officers, with the assistance of the teacher, make the rules for disciplining the school. The peace officers look after the enforcing of these rules. The commissioners, with the assistance of some pupils, whom they choose each day, look after all janitor work. The truant officer keeps the daily record of attendance and looks after all absentees and cases of tardiness. Not only is the School Republic inculcating the principles of self-government and community betterment through working together, but it is a great assistance to the teacher.

The village government is conducted by five councilmen, a peace officer, and two health officers. These officers are chosen by an election in which all the people vote. The council meets monthly and discusses questions for the common good and passes such ordinances as are needed. The health officers are women. Their duty is to inspect the houses every Saturday afternoon. The peace officer informs the people when they are violating an ordinance. The peace officer is a new addition to the village government. We thought there was room for such an officer; we also thought that something new might revive interest and add a little life to the village government. It must not be supposed that the village council has an easy time in governing the village. The councilmen have their troubles. One of the topics brought up at every meeting is "The people no honor the council." Of course the teacher must direct the council and uphold its authority.

Through the council the teacher does much of his village work and settles disputes arising among the natives. Such disputes do not always remain settled, however, and may come up two or three times for settlement. The village council is especially helpful to the teacher when he wishes to introduce something new and which he thinks the people may not take to very well. He has the council to pass it as an ordinance, and then he explains the helpfulness of such an ordinance and puts it up to the people that since it is an ordinance of their own village government they are duty bound to uphold it. The village council is a step in educating the Eskimos to direct their own affairs and to follow leaders of their own race.

Looking after the sanitation of the village is one of the duties of the village government. With this in view the council laid and collected a tax of \$2 on each house, which is to be used in paying for cleaning up the village this spring, taking care of the village well, and draining a pond in the center of the village. This work will be done as soon as the snow and frost are all gone. The refuse is to be gathered up and burnt. Also, an ordinance was passed forbidding anyone starting a rubbish pile in the village after this spring clean up. All such rubbish must be put on the ice of the sea or lagoon. The health officers inspect the houses every Saturday afternoon. The floors must be scrubbed and everything orderly before the officers make their call. In previous years these officers were appointed by the council, but the ones appointed last spring for the past year would not serve, because, they said, "The people not much honor the health officers." To give the health officers more authority we had all the people come to the schoolroom and elect two health officers. These officers say that the people "honor them."

All the houses of the village are igloos built of driftwood and sod. They are all built above ground, have floors, ventilators, and are well lighted, but they are too small and crowded. Lack of wood for building and fuel is accountable for this. One fire must suffice for as many people as possible. To get any quantity of wood it is necessary to go from 15 to 25 miles. Even at that distance the amount of wood to be had must be economized in order to last through the winter. Last winter the driftwood was cleaned up along the beach and considerable seal blubber was burnt with it. This wood should be collected in the fall and hauled by boat. This is not always possible, as it is the fall storms which bring in the drift, and these storms sometimes prevail too late into the early winter to permit the hauling of wood by boat. This was the case last fall. Though the scarcity of wood makes crowded house room, the effect of this crowding is somewhat counterbalanced by the outdoor life led by the natives. They take to the tents early in April, scatter over the country and remain so until late October. This practice of tenting and roving for half the year is favorable both for health and acquiring a livelihood.

The village has no fresh water supply in summer. It is on an island with the ocean on one side and a wide lagoon on the other. An attempt has been made to solve the water supply by digging wells. These wells are shallow, being only about 6 feet deep. It is useless to dig them deeper because that is the frost limit and there is no water below the frost limit. Thus only surface water drains through the loose sand into the wells. Last fall, in spite of the unusually rainy weather, both wells were dry. This need inconvenience no one but the teacher, as the natives may just as well camp away from the island where they can get to the fresh water.

There was about the usual amount of sickness among the natives during the past year. A disease went through the village last fall and early part of the winter. The same disease was at Kotzebue last summer and was pronounced enteric fever by the doctor there. No deaths resulted from it at our village but two people had it very severely.

Two deaths occurred during the year. One was that of a man about 45 years of age, who died from the effects of syphilis. His was a chronic case. The other was that of a little girl who died from the effects of burns received last spring. She was in the

hospital at Kotzebue all last summer and was thought out of danger when she left the hospital.

Our community has a large number of cripples. It must not be inferred from the number of cripples that our people are unhealthy. In fact, the health of the Kivalina Eskimo is perhaps above the average.

The people make their living by fishing, trapping, sealing, whaling, and reindeer raising. The village has exceptionally fine fishing. Trout is the chief fish caught. This fish is caught throughout the year but in very large quantities in the late fall, when they are put up for winter use. The sealing at Kivalina is also very good. Whaling is the old-time industry and to be a whaling captain is a position of great honor. The captain whose boat catches a whale has great prestige with his people. Though this industry is not so profitable as it was a few years ago nearly the whole village engages in it. There is a fascination about it which is hard to resist. Then, too, even though the bone is not worth much now, there is a big amount of oil and meat in a whale and the natives use it all. Whale oil is the favorite oil. By the 10th of May the Kivalina boats had caught two whales and one walrus. Because of the break up we have had no communication with the whalers since then. The whaling is done 80 or 90 miles above here at Point Hope.

Kivalina is the center of a very good trapping section. Some years the fur catch has been very large. This past year, however, was an exception. The fur catch amounted to about \$1,800, which was about one-fourth of what it should be. For some reason the foxes migrated to other sections but the natives say they are coming back this spring, and then, as if misfortunes never come single, the sealing during the winter and spring was very poor and of land game there was none. As fur is our only marketable product our village was hard hit this winter. The natives say it was the poorest season they have known for hunting and trapping. However, there was sufficient food, but not much variety.

Such years bring forcibly to the natives the value of reindeer. Without the reindeer this past year they would have endured hardships. The reindeer business at Kivalina has grown to be big. Two rivers which penetrate the near-by mountains have broad valleys, protected from the storms and covered with an abundance of moss, which give the village ideal advantages for raising deer. Also, the sturdy character of the natives at Kivalina is an important factor in the growth of the reindeer industry at this place.

We have had a very favorable spring for fawning. The records of the three herds here show about 900 living fawns. The Point Hope herd should have at least 250, which would give our station 1,150 fawns. This makes about 3,400 deer in the herds under this station. Every man and many women and children of our community own deer. This is a condition toward which we have all been looking, yet it has drawbacks as well as advantages. We must remember that the number of deer is yet too small to permit every native being a reindeer owner without seriously retarding the growth of the herders. A few deer do not assist in developing the owner. To develop a man through the reindeer industry he must be the owner of many reindeer. However, our hope is that the ownership of a few will create the desire for more and lead to greater care in saving female deer. The reindeer is the Eskimo's bank account, and in theory a small bank account should make the possessor desire a larger one.

The big thing in the reindeer industry is the facilities it offers us for educating the natives. The reindeer industry is the only industry through which we can get a hold on the Eskimo. Then, too, when we consider that there is no market here for meat and there are other sources which furnish sufficient meat for the natives, killing male fawns for skins is not so bad as it appears on the surface. Fawn skins are badly needed for clothing. Last spring a village herd was started. It is too young yet to demon-



state its value to the village. A village herd is probably not so important to a village where all are reindeer owners.

There is no mission at Kivalina and the religious work is carried on by the natives, with the assistance of the teacher. The natives conducted a Sunday school throughout the winter. Two teachers were chosen, one for adults and one for children. Each Sunday morning a Bible lesson was studied by the Sunday school. Two other church services were held on Sunday and one on Wednesday evening.

Teachers who have been in the service for a number of years can note with satisfaction that the natives have progressed far. They have also taken much from the teachers' shoulders by undertaking some of the work themselves. Many details of the work which in former years the teacher had to look after, the natives now take care of themselves. Many of the old beliefs which in former years interfered with treating the sick, with morals, and industrial work have passed away, the work of the teacher has become much easier and more encouraging.

An event which means much to natives and teachers who can get there is the reindeer fair. This is a big factor not only in developing the reindeer people but in developing the whole native race. It is creating a spirit of union which is one thing badly needed by the Eskimo race.

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## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT NOORVIK, IN ARCTIC ALASKA.

BY CHARLES N. REPLOGLE, TEACHER.

In Noorvik, perhaps as nowhere else, we have the two extremes of Eskimo character. On the one side the slow-thinking coast native from Deering who moved here less than two years ago, with a new hope to attempt a higher life and a better condition for his children. On the other side we have many natives whose residence has been along the Kobuk River, who are more intellectual, but very slow to adopt new things. They have been drawn to us more by curiosity than a desire to take any real part in a genuine uplift. They came to see, have been made to wonder, and now are rapidly advancing to civilization.

The work in the school has been divided as follows: In room No. 1 the advanced classes from the third year up, with Delbert E. Replogle as teacher, who also is our wireless operator; in room No. 2 the primary classes, under May Replogle as teacher, who instructs the girls in sewing, knitting, and basket weaving. In Room No. 3 is the kindergarten, with Lydia Oreluk, the native teacher, in charge. I have general supervision of the industrial work, the sawmill, the erection of the buildings, the medical work, together with the oversight of the village activities. We have all been busy and find the work growing to such proportions as to require the training of the natives for some of the responsibilities. Our school enrollment this year reached 108 but the regularity was not what it should be.

The school is being held in the natives' own building, erected by themselves and enlarged for the accommodation of the school.

The greatest difficulty experienced in teaching the Eskimos is not in teaching them regarding the facts of life but in getting those facts applied to their every-day living. Instruction has therefore been of the most practical kind.

The morning exercises are largely taken up with singing and telling the wireless news from all over the world, as received at our wireless station. So eager are the people to get in touch with the world that it is common to have the school room full of adults to hear the news. In order to understand it they must become acquainted with geography and history. These studies have given them a comprehensive viewpoint such as was never possible to obtain through the abstract textbook method of

teaching. This has had much to do with the change of the customs of the people themselves. To them the United States and its Government is no longer a matter of a man or two, but is a big tangible reality.

The wireless has done more in one winter to awaken the slumbering intellect of the native than years of abstract bookwork. His education has come to him imperceptibly and has fastened itself upon the consciousness without definite effort on his part. There is no longer any balancing of the "native custom" against the new knowledge.

In room No. 1 a class was organized for the study of electricity and the "radio" code. With the very limited general knowledge of the pupils, the progress was necessarily slow and very tedious.

Entertainments were given this year by the school on Thanksgiving and at Christmas. There was marked improvement over those of previous years. These entertainments are giving the natives confidence and eliminating their shyness. There were great crowds from afar at both affairs.

*Carpentry.*—With the improved facilities for obtaining lumber there has been some real work done in this line. Our method of instruction has been to teach the adults and apprentice the boys to them. This insures a more perfect working knowledge. All but four men in the village can understand and talk English enough for working purposes. We can therefore give the older men instruction and they are quite proud of the responsibility of teaching the boys. With the growing duties of the station this method was rendered necessary and has proven very successful. Houses were built, floors laid, windows and doors set, frames made and roofs put on homes which have been of practical value. The boys made 9 beds, 4 common chairs, 2 rockers, 4 trunks, and 12 tables.

*Boat building.*—Eleven boats have been built, some of which were sold to other natives, besides the one built for the station this year. The boys sell their small boats for \$15 and \$25 each. There is now a 35-foot boat under construction, which would be suitable for a 15 horsepower engine, or two 8 horsepower twin engines. The native who is building it expects to get it into the water in the latter part of the summer.

*Sleds.*—Fifty-four sleds were built this year—18 of hard wood and 36 from the native birch, found locally. This birch makes a strong light sled and is plentiful in the foot hills. Five of the boys are learning the industry.

*Stoves.*—Four boys under the instructions of a native man are making stoves. They produce a very good camp stove with oven and fire box which will last about two winters. These stoves are constructed from material sent in by the Bureau of Education and from material obtained here from empty distillate tanks. Twenty-eight stoves were manufactured this year.

*Cooking.*—Cooking is taught through the mothers of the village. Every woman in the village can bake good bread, and most of them do so, regularly. We have a system of inspection requiring each family to bake a certain quantity of bread each month. This was enforced when they had the flour. It has created the baking habit and has largely eliminated the intestinal troubles of the children.

The native must needs live as much as possible on his own peculiar diet; we have therefore endeavored to teach new and better ways to prepare what he has to use for his food.

*Sewing.*—Careful instruction has been given the girls in school as well as the women at their homes. This department is under the care of May Replogle and the work has been thorough. Two native girls have conducted dressmaking establishments in the village and were kept busy all out of school hours. At the holiday season they had to hire help to get all their work done. There is a great demand for clothes that fit, and the native women are getting to care more for their neatness than at any time to my knowledge.

In the school, knitting, crocheting, basket weaving, and general sewing are taught. These classes have produced this year the following articles: Ten skirts for girls, 31 sweats, 24 handkerchiefs, 5 baby outfits, 21 yarn hoods for babies, 36 pairs mittens, and 1 comforter, also sheets for hospital work. All the industrial work in the adult classes must be done by artificial light from November 20 until February 6. The only light for this country is the electric light, which we could not use very much on account of a shortage of distillate for the mill engine.

*Fishing.*—Fishing is the great industry of the Kobuk. Fish are plentiful at all times of the year, ice or no ice. The shee, perhaps the finest fish in the world, is found only in this region. It is abundant and weighs from 10 to 85 pounds; 20 to 30 pound fish are plentiful. The shee is caught in the winter with a hook through the ice, and in the summer in nets. Its meat is as white as that of a halibut, and very fat, with a delicious taste. Pickerel abundant in the grassy lagoons; 10-pound "mud sharks," resembling cat fish, are all along the river; there are quantities of whitefish weighing from 1 to 5 pounds, caught mostly in the late fall; also smelts in the early spring, together with the innumerable salmon all summer long. Noorvik being in the upper end of the great Kobuk delta is admirably located for fishing. The average catch for a thrifty family for the year is about 6 tons, most of which he dries: this feeds his dog team and helps to buy his flour and sugar for the family, as well as furnish the bulk of his own food. This year a company has been organized, a fish trap secured, and large preparations made for curing the fish in a more sanitary manner. This will greatly add to the catch and increase the income of the natives.

*Mining.*—Some natives have done considerable prospecting and have shown good specimens of gold-bearing quartz, but no developments have been made. Some have undertaken to guide prospectors to a mythical deposit, only to return with the prospector thoroughly disgusted and with a large fund of experience, both of Eskimo character and of climatic conditions. Five Eskimos work in the mines of Candle Creek and Klerry Creek near Kiana.

*Gardening.*—There was an awakening along this line this spring. Last autumn we purchased from Mr. Sickler, the Government teacher at Shungnak, a quantity of the turnips, potatoes, and cabbages raised there. This we used for an exhibit and talked up the business for Noorvik. We also grew in our own garden, on the hill by the teacher's residence, some fine lettuce and kale, and we had about 100 hills of celery which attained the height of 14 inches. The turnips weighed about 8 ounces each. These were grown in raw ground the first season, in the frozen tundra where it never thaws more than 10 inches deep in the year. This year we have planted the same ground in vegetables and celery which are all doing finely. We have also cleared about one-quarter of an acre of ground across the river in the willow covered bottom land, that overflows at some seasons. This is a sandy loam and is thawed down a long way. Here we have planted potatoes which had been started in 2-pound butter tins and then slipped out into the hills, and they are doing finely. This garden is only an experiment but looks so well that the natives are planting gardens all about us. An aggregate of about 1½ acres are being planted, mostly in turnips this year, by the natives of Noorvik.

*Medical department.*—There has been less than the usual amount of severe sickness this year. Four deaths and 12 births are recorded. There were three deaths from chronic tuberculosis, and one child from inflammation of the bowels. One severe case of burns was cured very quickly, and one severe case of ulceration of stomach was cured. One leg broken in a foot-ball game, a compound fracture, was set and put in good form again. Two severe maternity cases were successfully handled. All others were minor cases of colds and such like.

*The sawmill.*—The greatest industrial achievement, after the reindeer industry, was the establishment of the sawmill. The mill cut during the year 44,275 feet of lumber for the natives, of which the Government received one-sixth, or 7,325 feet,

which was used in ceiling the wireless room, for double floor in the native teacher's house, inclosing the mill shed, and other work such as boats and walks. The slabs were used in making houses, which are built double and filled with moss. In order to operate the plant a company was formed of Noorvik men who transact all business for the exchange of lumber. The lumber sells at the mill for \$35 per thousand. There being no logger among the Eskimos, we have not yet been able to secure the good logs that await the man who knows how to get them out. Neither are we able to get all the logs that are needed. Three rafts, totaling 500 logs, have already arrived and some natives are out cutting logs now. There may be a better report to make next year. The mill is a positive success. We are able to make any kind of lumber needed. We need additional planer knives for making rustic and drop siding; also longer knives for planing boards over 12 inches wide. We made about 3,000 feet of flooring this year, some 4 inches and some 6 inches, which is in great favor with the people. With the mill there has grown a strong sentiment in favor of better homes—real homes. One frame house, the first in Noorvik, was built this year. Thus far there has been no accident at the mill. Every precaution and safety device possible is in use. We have partially trained one sawyer, one engineer, one planer man, and a bookkeeper and yard man, who do really good work. The mill can be made to cut 2,500 feet of lumber a day, with good logs.

*Mercantile business.*—Two men purchased \$2,200 worth of goods from a local merchant in Kiana and sold them in Noorvik. The stock was far too small and the cost too great to permit of profit. About \$11,000 worth of goods was purchased this year from the various local traders, which if expended at home would have been a good business for one firm. There is not at present enough cash among the natives to buy a stock of goods, but it is imperative that we have a store in the village if we expect mercantile success.

The store could supply the most-needed articles of food and clothing, and leave the other things to the local traders around us.

*Logging.*—Although everyone logs a little, in a crude way, there has been no systematic effort in this direction as yet. There are nine men working at it who may succeed in making wages, but they need an experienced man to teach them.

*Woodcutting.*—A wood yard is operated at Kiana each summer by natives from Noorvik. The mercantile company of Noorvik contracted for the Government's wood supply this year and satisfactorily fulfilled the conditions.

*Village site.*—The village is just far enough from the sea to escape the fierce coast winds, while still close enough to satisfy the hunger of generations for the sea and seal. It is located far enough inland to meet the requirements of the trapper and fisherman and to have an abundant supply of timber. It is far enough down the river for logging purposes and in a slow river current, where the logs can be held easily, and is located at a sufficient altitude to avoid any possible high-water troubles.

*Home life.*—In this new village the native is no longer burdened with the irresponsible white man coming to his home; the loose morals of the women are less tried than before. The present one-room system of housing is not conducive to chastity, so that the morals of the people are still very low. But a healthy moral sentiment is growing.

*Electrical plant.*—This new feature of the Eskimo home life is not without its influence on thought and habit. In the semidarkness of the candle or seal-oil lamp the weird fancies and ghostly superstitions of the by-gone days flourished. Electricity is the only safe light in this land, where danger by fire is so serious. Every family in Noorvik is anxiously waiting the installation of the electric light in the home.

*Sanitation.*—This department is in charge of the village commissioner of sanitation, who is elected by the village annually. He works under the direction of the teacher. This part of the work had special attention. Many lectures were given,

taxes were levied, and a village spirit awakened. There are now plans under way for shelters where the dog teams may be housed at a distance from the dwellings, which will materially lessen the filth accumulation in the village. Garbage is either burned or hauled to the ice in spring and goes out in the break up.

*Washing.*—Clean clothes are now demanded by the people; an unclean native is made to feel his condition. A wash day is set aside by many families and washing is done regularly every week on that day.

*Bathing.*—This is still a difficult problem for the people in the winter. With their one-room houses and no privacy bathing is rather neglected. Only a public bath-house will solve this question satisfactorily.

*Dress.*—Wearing apparel is conforming to the native improvement in taste. The fur coat is slowly taking the place of the "parka" for social wear. The natives are beginning to have a special suit of clothing for home wear and a good old-fashioned reindeer-skin outfit for the trail and rough work. The new roofs on their cabins permit the last winter's clothing to be stored for the succeeding winter; formerly last year's clothing was lost because of the warm, rainy weather of the summer.

*Health.*—The general health is much improved. Tubercular troubles are on the decrease, there being no new cases this year. Chronic eye troubles caused by insanitary conditions and dark houses with repeated snow blindness have given some trouble. Many of the causes have been corrected and the prospects are far better.

There is a great need for a hospital at this place. It is by far the largest village of Eskimos in this section, and is easily accessible from any point in the region. Many cases could be safely handled in a hospital which are now lost. Eskimos respond to reasonable treatment more readily than to overdosing. There needs to be some one who is responsible to look after this matter. The church has appointed a "sick committee" of two men and two women to attend and nurse all cases needing help. The chairman of this committee has become quite efficient and reliable. She can be depended upon to follow instructions. She is training an assistant.

*Village government.*—The village is governed by five commissioners elected annually and serving without pay. The laws, made by referendum vote, are few but effective. There has been no attempt to escape the decision of the commissioners. The local code covers the local needs regarding property rights, the care of dogs, public duties of residents, sanitary measures, and morality. A tax of 25 cents on each resident over the age of 16 furnishes a fund for street work and improvements. All of the men are willing to do their share of voluntary labor on public improvements. Through this system the village has built an addition to its meetinghouse, which accommodates the Government school at present. This building contains the big tower clock. The tower of the church with its clock face 4 feet in diameter is the center of vision to the village.

*The reindeer industry.*—Thanks to the reindeer the progress of the people is assured. With the meat for food, the skin for clothing, harness, and leather, the sinew for thread, the horns for knife handles, and the hair for mattresses, the reindeer is a marvelous animal for this country. The institution of the fairs has brought about a lively interest in the reindeer business. Almost every family now owns deer. Cooperation is obtained, which is so necessary in the propagation and marketing of reindeer.

The fair has made the reindeer man a specialist; he studies his profession and he is better fitted for his work than other men who are not in the business. This is a great step forward for the native. The reindeer man is no longer a hunter, fisherman, tapper, carpenter, or miner; he is a man versed in one good business. Not all herders have as yet attained to this stage, but they must do it or soon be out of the business. The two fairs held in this district have done more for the reindeer business than anything heretofore conceived, and should be fostered as much as is possible. These

fairs are conducted with the utmost care and show much thought and ceaseless planning on the part of Superintendent Walter C. Shields. In all the work and progress of the business there has been and yet remains the problem of the herder's family. How can the elevating influence of the school reach his children, who in turn are to become the future reindeer men? The herder must be at the herd or lose materially; his children must get to school. If the man is to succeed at his business, he must have the cooperation of his wife. This problem is yet to be worked out in a practical way. We have been trying rotation work; letting the herder and family live at the village for stated periods for the benefit of the school on the children. This has met some of the difficulties, but not all. The plan has made the families more willing to stay their time at the herd. The markets for the meat are in white settlements and the families and herds are often near those places where the downward tendency on the life and morals of the natives is great.

*Out-door sports.*—The people are great lovers of out-door sports. Football is their chief game. An earnest effort was made to organize a football team but had to be abandoned as the people who watch the game must have a part in order to keep warm. Delbert E. Replogle brought his old college basket ball with him and this was a decided improvement on the old fashioned reindeer-hair ball. Calisthenics and drills were introduced into the schoolroom exercises. Days were given to races of dog teams and reindeer, as well as to foot races of men and boys and even girls. We have an athletic committee with D. E. Replogle as director.

*Religious work.*—There being no missionary in Noorvik the religious work was looked after by the teacher in charge. The people had regular meetings under the directions of the Noorvik Monthly Meeting of Friends, an Eskimo organization. There were also held meetings for village business, mass meetings, men's and women's meetings, with graphophone concerts, and reflectoscope pictures in the meeting house. Anything elevating or instructive has been fostered.

*Printing press.*—A small printing press with a font of type could be used by the school to good advantage in teaching composition and spelling. The wireless news could be put into type by the advanced scholars and distributed in the village for the good of all. It would not cost much and the natives are asking for it.

*The wireless station.*—The wireless station has been a remarkable success. It has been of great service in the regular course of instruction in history and geography. It is the northernmost station on this continent. Rummaging in wireless shops in Seattle, D. E. Replogle picked up a set of second-hand instruments; then he made some additional ones himself, and with the help of Mr. Walter C. Shields and the Army wireless men of Nome, secured some lacking articles, bringing the outfit to Noorvik in July, 1917. The first message was sent through to Nome on November 27. The aerial was strung just 40 minutes when signals from Nulato were detected, and an hour later Nome was picked up. The receiving instruments were all but one homemade and they have been a success from the start. Lack of meters necessary to the tuning of the station has caused some trouble at times in the sending. The most remarkable thing is that with the few things furnished the station has worked so well. All the difficulties are now in control, even to the replacing of the badly scratched, second-hand Leyden jars by a condenser made from empty distillate cans. Our signals are heard at the Army station in Nome, and are distinctly read in Nulato, 180 miles away, with which we now work every Tuesday and Thursday afternoons. We need a better sending set. We have one man to turn the rotary spark gap by hand power; it should be turned by a small motor. The Noorvik Eskimo is no longer an isolated native, but begins to feel the citizenship of the world in his blood. He is making healthy comparisons and contrasts. At first the wireless was to him a novelty, a toy; when the masts were set up he helped for the fun of it. To-day he is anxious for the news and is connected with the world. A wireless message is as the voice of God to him. The psychological influence on him is immense.

## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT SELAWIK, UNDER THE ARCTIC CIRCLE.

BY FRANK M. JONES, TEACHER.

The school attendance this year has been large and quite steady. With the exception of a few families nearly all the children were in the village at the opening of school. Parents were encouraged to make every effort to keep their children in school and they did so faithfully. In some cases I know this was a real hardship, with the father away hunting and shortage of fuel in the village. Some needy children were given clothing from the mission and school supplies in order that they might be in regular attendance. The parents' appreciation of their teachers has been a help to us and their cooperation has helped us settle many problems. Night school for adults was popular during the winter.

The beginners and primary pupils under Mrs. Jones's direction have shown good progress. The English-speaking parents of the primary tots were told to speak English to their children at every opportunity. It was easy to pick out in school the scholars so helped at home. The greatest difficulty the teacher has in the beginner's class is making the children understand directions. We believe it is a bad policy to use an interpreter or the Eskimo tongue in school. Of course this makes it hard in the primary grades, but the pupils learn to talk English sooner. Baker's Action Primer was used to teach the small children the use of verbs. The A, B, C's, chart work, jingles, and songs were also included in the year's primary work.

The upper grades show aptitude for physiology and geography. Arithmetic must be made very practical. Composition is most difficult for the Eskimo child and consequently is most important. In such work as reading, spelling, and copying the children do well. Several showed real talent in drawing. Songs and recitations at Christmas and Easter were beneficial for both children and adults.

If an older pupil was perfect in attendance during the week, he or she was permitted to take home a book to read. These library books were much appreciated and stimulated attendance. Many times have I dropped in at an Eskimo home and found the child reading aloud from his library book. Other children would be listening and the old Eskimo parents very intently trying to understand the white man's talk, the children often interpreting to their parents. The children could hardly wait until Friday to exchange their books.

*Carpentry.*—Only boards from boxes were available, so the articles made were small. However, a thorough course in the names, uses, and care of tools was given. Composition books with the names of tools, a sketch, and their use were kept by the boys. At the close of school each boy proudly took his book home. This summer the books will be read and reread and thus the work next year made somewhat easier. In many cases the father at home had learned about the tools from the boy. Then he would surprise me by coming to borrow a tool, and instead of making motions to indicate the tool wanted, simply say the name of the tool. Eskimos take no care of guns or tools of their own, consequently need new ones nearly every year. Emphasis was therefore laid on the care of guns and tools. At the close of school an examination was given the boys and the answers were very creditable.

The following articles were made in school: Soap boxes, cabinets, chests, checkerboards and checkers, small windmills, hooks (of deer horn), tops, picture frames, grab boxes, and horn buttons.

*Sewing.*—The smaller girls made rag dolls, which were given to the babies when finished. The first essentials of sewing were taught them while making the dolls. At the close of the term several small underwaists and aprons were made by these same girls.

The larger girls show talent in cutting and fitting, but are lacking in the patience required for nice finishing. Patterns were cut from brown paper and the dresses modeled from small pictorial designs. Some girls crocheted lace for trimming. The following articles were made: Sixteen underwaists, 4 undershirts, 15 dolls, 2 baby hoods, 8 aprons, 2 capes, 3 parka covers, and 14 complete dresses.

In the women's sewing class the material was furnished either by themselves or from the mission boxes sent from California. In the former case the finished article belonged to the owner and in the latter case the garments were distributed to the needy. Miss Hunnicutt was ably assisted by Mrs. Jones in conducting these classes. The women were glad to have the social gatherings and to learn more about sewing. The men would bring the little sewing machines just before class and carry them home after class was over. Nearly a score of hand machines are in the village, so the work was rapidly done. The course was made as practical as possible and the use of English encouraged. Enthusiasm and gossip kept up the interest.

*Cooking.*—All the older girls received instruction in making light bread, cookies, doughnuts and biscuits. Several women of the village were taught how to make light bread. The average Eskimo stove is unfit for use in baking bread, so the school-room stove was many times called into service. The number of ranges in the village is increasing. The Eskimos realize that it pays to buy a good substantial stove, one that holds the heat and bakes well. Cleanliness was emphasized, and all girls were made to don clean aprons and caps before taking their cooking lesson. They took great delight in washing the utensils after use. One reindeer boy showed great interest and ability in cooking, so he was taught how to make different kinds of cookies and cake. He was in great demand when in the village and made quite a little money by his cooking.

*Village improvement.*—Three new cabins were erected last fall. Nearly all the cabins in the village are well floored and have one or more windows. In all the cabins you can stand upright with ease and some have 8½ or 9 foot walls. Many roofs were raised last fall, thus giving more air capacity and standing room, two things badly needed in the crowded houses. Practically every family now has its own cabin, a condition making for better health for the natives.

The Friends Church, owned and constructed by the Selawik natives, is a large log structure 25 by 35 feet. It was completely finished and floored last fall. Four large windows furnish light. An orchestra of five pieces was successfully trained, and appeared several times in entertainments in the church.

Shelves and hooks were introduced for the first time in some of the cabins, and an effort was made to have all the women keep their clothes hung up and off the floor. The regular scrubbing of floors and frequent washing of clothes were drilled into the women. A strict house-inspecting committee of the neatest Eskimo women was effective in keeping up the standard. Cupboards and tables are more numerous and each year more Eskimos eat from tables and sleep in clean bunks. Thus the years of drilling and exhortation by the teachers begin to show results. The Eskimo men frequently ask about plans to build or improve their houses or their furniture.

*Village government.*—At a meeting of the village people in October the formation of a village government was accomplished by the election of the following officials to serve for one year: Head commissioner, commissioners of morals (one man and one woman), commissioner of destitution, commissioner of safety (marshal), and commissioner of sanitation. The school-teacher was the adviser of the local officials throughout the year.

After the election all the people promised to stand by the commissioners and to obey the rules they might make. Definite duties were laid out for each official. Two women were elected and served very well. Some difficult problems occurred during the year, which were satisfactorily handled by the commissioners. The Eskimos take the idea of self-government very seriously. Occasionally the commissioners



morals and safety were called upon to exercise their power; during our absence at the Noatak fair they used it effectively on a white man who insulted an Eskimo girl. This is a step forward, as heretofore an Eskimo would scarcely ever lay hands on a white man for any reason. I believe the satisfactory moral condition of the village is due in a large part to these upright commissioners, who were not afraid to do their duty.

Destitution in the village was reported to the proper official and relief was extended by the village. This took quite a burden off my shoulders, as it is often hard for the teacher to distinguish between the needy and the professional beggar. The commissioner knew the actual case.

Vagrant dogs were corralled by the vigilant marshal and those showing signs of sickness were promptly shot. Trouble of any kind, and unsafe trails were also reported to the commissioner of safety. Reporting cases of sickness and helping to improve living conditions were the duties of the commissioner of sanitation.

*Health and sanitation.*—Education of the natives regarding personal cleanliness and hygiene has reduced sickness appreciably. This can be easily seen in the improved health of the babies. Many new ventilators and higher roofs give more air capacity to the cabins. We were unsuccessful in a few instances in getting the women to keep the cabins cleaner. The old people do not readily accept suggestions from the teacher in regard to cleanliness. The young people, on the contrary, listen and learn. One large family is continually filthy. A little girl in this family has a large rupture just below the navel. We bandaged it, but of course the relief was only temporary. A physician is needed to operate, but as there is none at Kotzebue the case must wait until one is available. Several cases of eye trouble have been treated. Snow blindness and subsequent irritation often cause a white film to grow over the cornea. Argyrol and boric acid were effectively used in these cases.

One Sunday morning we were awakened by a violent pounding on the door. I arose and found a native woman with her 5-year-old boy. He had fallen out of a bunk, she said. Examination showed a broken arm. Mrs. Jones administered the anesthetic while I set the arm. In a few weeks the little fellow's arm was entirely healed.

A few cases of ptomaine poisoning occurred, but prompt action always resulted in relief and cure. The people have at last learned that rotten fish weakens their stomachs and makes them more susceptible to disease, if not directly poisoning them.

Many of the advanced Eskimos come to ask me questions about the location of the bones, organs, and functions of the body, thus showing an awakening mind and with it the doom of superstition. To be sure the old "medicine man" still practices among the "Ipanee" (old Eskimos), but the younger generation laugh at him. The young people have a real knowledge of the body and the "Doctor" can not hoodwink them. One "medicine man" comes to me frequently for medicine. He always says it is for his wife. Superintendent Shields in his talk at Selawik hit the old "Doctors" hard, and his speech will long be remembered.

Only three deaths have occurred during the year; two being long-standing cases of tuberculosis and one of old age. All were adults. Mrs. Jones has helped me in many infant cases and credit is due her for her part in saving the lives of some babies of the village. Over 20 births have been recorded with no deaths.

The schoolroom, a warm stove, soap and water prove quite an attraction for the children. So baths in the schoolroom are frequent.

Garbage of the village is raked and burned or thrown into the river. The natives leave the village before the snow melts and return only at intervals until fall, so the garbage problem is easily solved. Living in tents during the summer makes the Eskimos sturdy and strong. If they were cooped up in their cabins constantly, the race would soon deteriorate.

*Industrial life.*—The fur catch was plentiful during the past winter and the prices good. Food has been expensive, as usual, but most of the natives have had flour, sugar, and tea in their homes all winter. Competition between the local stores has benefited the natives, also the policy adopted by one store of keeping the price constant on food articles. Fluctuations in price bewilder the Eskimo and invariably get him deeper in debt.

The financial condition of the village is better now than ever before. As there were no severe storms this winter the traps set were not lost and could be well attended. Many natives have paid their old debts. Some, of course, will be in debt until they die. One man trapped 66 minks, another 23 foxes (mostly white) last winter. These were the largest catches reported.

Some freighting has been done by the natives at good prices. A few others have worked in the mines at Candle or on the Kobuk. Several make money by working on the river boats during the summer. The Selawik native is industrious and as a rule honest.

In the "shipyard" there are now eight boats, seven sail and one gasoline. There will be two new ones constructed this summer. The reindeer boys also have a boat of their own. Selawik has more native boats than any other village near it. Some of the lumber used in the boats came from the States, but most of it was whipsawed and dressed by hand.

Fishing furnishes some support in the summer, but the catch is not dependable. The ownership of deer is the aim of many natives, and some invest in the purchase of reindeer everything they make each year. This form of savings bank pays good interest and is safe.

*The reindeer.*—Fawning time this spring was not attended by such cold weather as in some years, consequently fewer deaths of fawns occurred. The reindeer boys watched carefully night and day during this period. The natives realize every year that the fur catch will sometime cease and the deer man then will really come into his own. I camped a week at the largest herd during fawning time in order to oversee the work and learn more of the industry. The reindeer boys seemed to appreciate the interest shown in them and did their best.

Sale for Selawik deer meat has been good and the demand greater than the supply. The price varied from 12½ to 20 cents per pound. The recent reindeer association organized at Noatak has fixed the price at a minimum of 15 cents.

Six deer men (two with their wives and children) made the trip to the Noatak reindeer fair. They returned full of "pep" and knowledge gotten there. Mrs. Jones and I also went, traveling farther than any other teachers in this district to attend a fair. What we saw and heard convinced us that the fair was a big thing in the education of the reindeer men. I have no doubt they will talk for years about the things seen and learned there. The spirit of earnestness, discussion of problems, competitive deermanship, and exhibit of handiwork can not be valued in dollars and cents. The small number of prizes made it difficult to properly award them. The giving of prizes, even though of small value, stimulates competition. However, the ribbons were proudly received and the spirit of earnestness could not be doubted. The reindeer fairs are to the Eskimos what conventions and institutes are to the teachers in the States.

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## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT UGASHIK, ON THE ALASKA PENINSULA.

By WILL A. WILSON, TEACHER.

July, Alaska's harvest time, was very profitable to the natives of this village, as they then reaped over \$3,600 in cash laboring in the salmon industry.

As soon as the last ship was gone all of the natives, as is their custom, left for the beautiful Ugaahik Lakes, where they dry their fish for winter consumption.

I was unable to go with the crowd last fall as I was expecting the school supplies and waited here to receive them. About the second week of September the natives began returning to the village and the children entered school as fast as they arrived.

October 24, John Nichols, a half-breed, arrived in a Columbia River boat with some of our supplies from Nushagak. The weather had been very rough and he and two small boys had been stranded on a flat near Naknek for several days before they got a tide high enough to float them. After landing the supplies here they left for Port Heyden October 29. After crossing the Ugashik bar they found the sea so heavy that when they tried to run into Chegong Creek the boat capsized. The two children were lost. After drifting with the wreckage for about four hours, Nichols was washed ashore almost exhausted. Fortunately he was found and cared for by natives who were trapping at that point. We sent natives from here to attempt to find the two boys, but the bodies must have drifted out to sea, as our people have been unable to find them. Nichols's entire winter outfit was lost.

*School work.*—The attendance was very good this year; the children were in school practically every day they were in the village and able to attend. The children from other villages always came to school when they happened to be here.

In addition to the textbook instruction, the girls, under Mrs. Wilson's guidance, made underclothes, shirts, and dresses for each child, and they are very proud of their accomplishment.

Each child took a bath in the school tub once a week and changed clothing. Monday morning, after our family washing was done, the older children used our washing machine and washed all of the soiled clothing belonging to the school children. Tuesday the girls ironed these clothes, and each child's towel and clothes were placed on the shelves ready to be used after the next bath.

Mrs. Wilson taught cooking to the girls and two of the boys; each child was allowed to take home a portion of the baking for family use. Some of the whites who have no cooks were persuaded to furnish flour and other materials from which the girls made bread, cakes, and pies, two-thirds going to the men who furnished the flour and the rest to the girls. The girls take a great interest in domestic work and with the proper surroundings would make good housekeepers.

We were hampered a great deal this year on account of being unable to get our supplies. The boys and I expected to paint the school buildings inside and out this year, but the paint is still in Nushagak; visitors to the village are suggesting white-wash. Our manual training work this year consisted of making dog harnesses, one new sled, and repair work on others. The apprentices made reindeer harness, and the other boys made some boat models of such material as we had at hand. After Christmas the boys polished ivory which I bought at Nushagak last year. We also lengthened the flag pole 16 feet.

*Entertainment.*—In November we began practice on our Christmas entertainment which consisted of songs, flag drills, recitations, and a little play entitled "Mother Goose's Christmas Party." Each child in the play was costumed for the part he or she was to take. The play gave a great deal of work to the children and much benefit was derived from the practice. At 4 o'clock on Christmas Day every one in the village was here and enjoyed the entertainment and the prettiest Christmas tree they had ever seen, an evergreen tree which I hauled about 80 miles for the occasion. This year many of the natives placed presents for one another on the tree and every man, woman, and child received a present. After the distribution of presents a lunch consisting of sandwiches, tea, and cakes was served.

The birthdays of Lincoln and Washington were celebrated with patriotic ceremonies.

*Medical work.*—There has been a great deal of sickness in the villages of this region during the past year, and almost everyone is afflicted with a severe cold at present.

Medical assistance was rendered 797 times during the year. The prevailing trouble, of course, was tuberculosis. We had nine cases of pneumonia, one of milk fever,

one of abscessed breast, four cases of severe frost bite, two of gunshot wound, and one case of foreign body in the eyeball caused by explosion of shotgun shell during process of loading. We handled all of these cases in the school, securing good results. Two of the pneumonia cases were fatal. In June I took the woman injured by the exploding shell to Naknek where Dr. Rosson, of the Alaska Packers' Association, removed the portion of shell from the eyeball. While I was away with this case, a native boy shot himself in the arm with a shotgun shattering both bones in the lower arm, destroying the joint, and breaking the bone in the upper arm. He was taken to the schoolhouse where Mrs. Wilson dressed the wound and stopped the hemorrhage. She then sent him to Naknek on one of the company's boats, where Drs. Rosson and Shafter operated on him. These cases were handled at Naknek through the kindness of Messrs. Smith and Nielsen, superintendents, as it was almost impossible to get the cases to the Government Hospital at Nushagak.

The medical work takes up a great deal of my time; it is hard to refuse to go to the other villages when they ask for aid. Uguguk is 60 miles from here and Upper Ugashik is 15 miles, so I am kept busy when they have much sickness there. Many cases have been brought here from other places for treatment in wintertime. During the past winter we have been short of many of the medicines we needed and we have no cough medicine of any kind or any liniment, as the supplies for last fall have not yet arrived from Nushagak. Dr. Borland sent some of the supplies by a man who was coming this way, but he could not bring a great amount. Dr. Borland was with us for three days in February and did some dental work for us.

During the winter I traveled by dog team as follows: To Nushagak and return, for medicine, 570 miles; to and from Naknek, taking child to Dr. Borland, 240 miles; to Uguguk and return, to treat a fractured leg, 120 miles; 36 trips to the upper village and return, medical calls, 1,080 miles; trip to reindeer herd and return, to treat a frozen boy, 60 miles; total, 2,070 miles.

There is no fund for this expense and if I had to hire a team it would have cost \$517.50 for dogs, sled and driver, besides provisions and dog feed. I own my own team which cost me \$140 and used during the year 3,186 fish valued at \$288.95. Of these fish I caught and dried 1,760 of them myself during my last summer's vacation.

On one trip I was caught in a blizzard and spent two days and three nights in a tent, without any stove or provisions. I had two native men with me and gave each of them a fish, took one myself, and kept the rest for the dogs. It was a trip we should have made in a day, as I took only tent, medicine, and dog feed; it was an urgent case and I felt that we could make the 60 miles in one day. It looked fine when we started, but when we were out about three hours the blizzard struck us so hard that we could not see. I would have perished on that trip had it not been for the natives and the animal heat from the dogs. The natives furnished the common sense and the dogs the heat. On the third day we started again, although it was still unfit to travel, but we made a trapper's camp where we found food and shelter, but we were "all in."

Besides these trips I visited each of the herds once a month. When I was away Mrs. Wilson taught school. She did this that I might care for the sick although she was not under salary.

We have the good will of every native within a radius of 300 miles and a feeling that we have done our duty to those in need.

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## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL ON ATKA ISLAND, ONE OF THE ALEUTIAN ISLANDS.

By AMOE B. CARR, MRS. ELLA D. CARR, AND LELAND E. CARR, TEACHERS.

School began September 11, a few days after the last visit of the Coast Guard steamer. Our day-school enrollment was 17, and night-school enrollment 13. We held night sessions for the adults until the trapping season began. These sessions were attended

with much enthusiasm and interest. Our village chief attends regularly and has made great progress in English.

*Day-school work.*—The children have made wonderful advancement this year in using English. The old women of the village ridiculed them so much that for a while it was very hard to get them to speak English, but since they have learned considerable English we hear it spoken quite often among the children at play.

They are excellent in memory work, hence spelling is one of their favorite subjects and they spell very well indeed. They are somewhat slow in arithmetic; we are trying to make it as practical as possible. The children are drilled much in changing money, buying groceries, and selling furs.

They like hygiene and have learned the meaning of "germs," etc. We especially emphasize the ill effects of alcohol and tobacco, as all the adults in the village make "sour-dough beer" and use tobacco.

We have been trying the phonic system of teaching reading to the beginners this year, and can declare it a great success. The children enjoy it and are learning faster than the other beginners did. The children all sing the old favorite songs and a number of motion songs.

On Monday afternoon they draw and paint. They have made some very good pictures of objects with which they are familiar. On Tuesday and Thursday afternoons they sew, and this year they outlined a quilt. They made drawings of seals, foxes, reindeers, and other animals, and transferred them to white muslin, then outlined them in red. They also knitted a pair of mittens each, and a cap each, and sewed for each pupil two aprons, one underdress, and one suit of underwear. Before Christmas they made gifts for their parents and friends; hemstitched handkerchiefs, sewing bags, pin cushions, and doilies, while the little folks hemmed towels, made iron holders, and doll dresses. One afternoon each month is devoted to patching and reading—boys included. While the children sew the teacher tells or reads stories to them. On Friday afternoon they learn new songs, tell stories, and learn new games.

Wednesday afternoon is devoted to instruction in sanitation, hygiene, and cooking. The children have learned what foods contain the most nutrition; what to get for invalids, and how to cook a few simple dishes for everyday use. The children are young and we have not accomplished as much in cooking as we would like.

*Sanitation and health.*—The natives take pride in keeping the streets clean; they are graveled each year, and all refuse is carried into the bay. The houses are scrubbed twice weekly, and bedding is aired every fine day. Some washing is done every day in the week. Windows are opened at night and every fine day, as the natives are learning that fresh air means health. We have been fighting lice ever since we came here. Lousy children were in disgrace and were placed in the "lice row" in school. This year we have not seen a louse on a single child. We are really proud of this achievement.

The health of the village was very good this year, with the exception of a peculiar case of dysentery and vomiting which broke out last fall among the children and lasted from three to six days. We cared for them the best we could and all recovered. There were no deaths. Four babies were born, all fine strong girls. We gave special care and attention to the babies, instructing the mothers as to the best method of feeding and clothing them. The mothers listened to our advice and, in a measure, tried to follow our instructions. The children all run to the teacher when they get a cut, burn, or scratch. They have learned that sores heal readily when given proper care, and they do not want their mothers to put old rags on their wounds.

*Occupations of women.*—During the winter months while their husbands are away the women have little to do but weave baskets. This is very tiresome, close work, and we are discouraging it to some extent. We tell them to get out and walk or fish on nice days, and leave their weaving for stormy days. After much persuasion we succeeded in getting some of the women to set traps near home. One ~~woman cannot~~

two blue foxes, which will probably net her close to \$100, which is more than she could make in a year by basket weaving. The outdoor exercise also improved her health.

On Thursday afternoons the women all come to the schoolhouse to sew and do fancy-work. There is much rivalry among them to see who can do the nicest work. They have made the following articles: Ten crocheted doilies; 7 pairs of pillow slips, hem-stitched; 5 knitted sweaters; 18 pairs of knitted mittens; 12 crocheted caps; 12 middies; 10 white dresses; 10 aprons; 12 underdresses; and 12 nightgowns. Besides these articles many yards of lace were crocheted to trim the skirts and dresses.

While the women sew the teacher instructs them in hygiene, cooking, and general-welfare subjects. They are good listeners, but rather poor conversationalists. However, I have learned more of their wants and desires during these afternoon talks than by any other means.

*Occupations of men.*—Last summer we purchased a net and with the aid of the men of the village secured enough fish to supply the whole village with salt and dried fish for the winter.

The men hunt eider down, eggs, and sea lion in the summer; eider down for quilts, and the sea lion for use in making shoes and bidarkies. This year has been a bad one on trappers; there has been so much snow. The natives say the worst in years. In spite of all drawbacks they have done very well.

The total number of blue foxes caught was 169; silver gray, 33; white, 2. The total income from foxes was \$8,096; \$375 was paid out for labor; \$200 for basketry. The total income of the village was \$8,671. This makes a per capita of \$135.48 for 1917 to compare with \$24.45 in 1912.

*Native store.*—The increase in the income of the village is entirely due to the native store, which was established here four years ago. The natives receive the full value of the foxes sold, and as each year passes we are getting a larger stock and are able to give better prices on goods sold. The new store building which was erected last summer has given the natives confidence in the permanency of the establishment. They are proud of the store and think they are fortunate indeed to be so favored. The chief with all his people wish to express their appreciation to the Bureau of Education for the school and especially the store. Their homes are better furnished; they have warmer, neater clothing; better and more food; and even a few luxuries are now available.

*Buildings and improvements.*—Besides the store building there have been erected four new frame houses, four toilets, and a silo. Water is piped from a near-by spring through the village and into the school building. A faucet was placed in the center of the town and all can get good water without tracking through the mud up to the spring. Five new dories have been built. All the new houses have been painted this spring.

Last January a severe storm from the northeast washed away the wall in front of the schoolhouse, and for a time we thought it would carry the building out, but the sea subsided before that happened. The men put up a new wall which can be only temporary. Nothing but a cement wall will hold against the great seas which surge in here in wintertime.

*Stock.*—We now have seven head of cattle. The silo came up in September and by the time it was erected it was quite late for ensilage, but we filled it about half full. This winter was so severe that the cattle would have perished had we not put up ensilage. During the summer months they get fat, and during an ordinary winter they can secure almost all their food out of doors. It seems to be an ideal place for raising stock. The reindeer are increasing. No accurate count has been made, but we estimate that there are about 75 on the island. There is grass and moss enough on the island to feed a large herd.

*Agriculture.*—Last spring we planted one crate of potatoes and in the fall when we dug them up we found only little marbles, about 20 pounds of them. This spring the

natives planted gardens, and we have two school gardens. Turnips, radishes, and lettuce are planted. Conditions are not favorable for gardening, as seasons are so variable. Every year, however, gardens are made and sometimes an abundant harvest is reaped.

## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT TATITLEK, IN SOUTHWESTERN ALASKA.

BY CHESLEY W. COOK, TEACHER.

There has been noticeable development in the village during the last year, industrially and in classroom work. The most marked advance has been among the younger men, who have been engaged in cutting piles and logs for mines at different places on Prince William Sound; in cutting logs for the sawmill at Cordova, and in furnishing piles for fish canneries. In addition they have sold six or seven thousand dollars' worth of salmon to the canneries. Many have worked by the day at mines as assistant cooks and laborers and in other capacities. I believe we should feel encouraged about this, because in former years the natives worked only when driven to it by necessity. As I write I do not know of an idle man. They are all either fishing for salmon or working at the mines, not because they are forced to work, for at this season of the year they can live without effort, but because they wish to earn money. The efforts of the Bureau in this village have certainly had a stimulating influence upon the natives industrially.

We have made fishermen of the natives, and fishing has come to be a great summer industry of the entire region. Factors which have created a demand for the native fishermen are their knowledge of the local waters, legislation in favor of local fishermen as opposed to nonresident fishermen, and the procuring of reserves which permit us to control the shore fishing within them. We should be able to control all the waters within the reserves. As early as January the canneries began contacting with the natives for their services as fishermen during the summer. At one cannery natives have been made the "major crew." All the canneries have been willing to employ all the natives that could be secured, some of the companies calling at the village and transporting the natives to their canneries. In causing the men to work steadily and to earn money we have accomplished much of what we set out to do. The unfinished phase of this part of the work is to teach the natives to lay aside a part of their earnings, to create a reserve upon which to draw in times of need. In this we have not made much progress, though they are acquiring more substantial property in house furnishings, boats, and engines.

The school enrollment increased to 62 this year, overcrowding our rooms and making it impossible to give sufficient time to all phases of school work. We are in immediate need of another classroom and teacher. We are now conducting classes from the kindergarten to the sixth grade, as well as doing industrial work with both boys and girls.

Our shopwork reached a standard this year that I have been striving to acquire for many years. We were able to take in outside work and put the schoolboys upon it. We succeeded in building a 28-foot launch with our training class, and the boys were thus able to earn something as well as to have the training. This successful effort brought inquiries from several quarters as to whether we would accept orders for boat building. I believe that there can be quite an industry worked up along this line if I can be relieved of some of the classroom work in order to devote my time to it.

Another new phase of the work is the introduction of games in the lower grades by Mrs. Cook. This has developed alertness and stimulated the use of English. The children will use English in playing a game if taught the game in the English language. We have also found that the earlier a native child enters the school the better and faster he advances, as he grows up in the language and ways of the school.

In our instructions we are directed to report upon our success in agriculture. There is not much that I can report about that, as this is not an agricultural section. Each year I prepare a very small piece of ground and raise a few vegetables, but the production never pays for the effort. There is no arable ground here; it is tundra, which must be stripped of moss, drained, dug up, cut into fine pieces, mixed with sand and gravel and fertilized; then, if the season is favorable, one can raise turnips, cabbage, peas, lettuce, and radishes. We can prepare the soil, but we can not govern the weather conditions. We have had but two favorable summers out of the seven I have spent here. The natives have never followed my lead in gardening to any extent, and I have not encouraged them in it for the reason that gardening comes at the same time that the fishing is being done, and the proceeds of one day's fishing would buy more vegetables than a garden would be likely to produce in an entire summer. It seems to me that it would be impractical to encourage agriculture under the conditions here.

We should very much like to install a sawmill, have the natives cut lumber for modern houses, lay out the village in lots and streets, and to construct a water and sewerage system. While I believe the native should usually pay for what he gets, yet in introducing these new undertakings the bureau must expect to take the lead and bear the expense. My idea of conducting the improvement would be for the bureau to advance the amount necessary to buy and install the sawmill; to assemble the natives and make them acquainted with the project; to get them to promise to set up the mill; also to pledge themselves to secure logs and saw lumber enough for a house within a certain time. After the mill is completed we should get them to build additional houses within certain periods, and consent to a survey of the village and a plan of drawing for lots, under the supervision of the bureau. We started fishing in a similar way, furnishing a seine and dories. We had our ups and downs, and at times I was very unpopular, but we have a fishing industry to-day. In a few years we could have a model village. The task is hopeless as long as log houses are built in the same old hit-and-miss way.

The natives observe the law as well as the whites, and often better. Often they are encouraged by whites to break the law, particularly in taking valuable skins, such as sea otter, which are protected. Much the same conditions exist in regard to morals. They follow the examples set by a certain class of white men.

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## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT KLUKWAN.

BY FAY R. SHAVER, TEACHER.

*Shop work.*—On account of extremely cold weather last winter there was much time when we could not use our shop. Although there was not so much work done as formerly the quality was up to the standard. The younger pupils made toys, boxes, tables, etc., besides helping to make sleds and stovepipe. The older boys made sleds, boxes, tables, galvanized pails, camp stoves, heaters, dust pans, stovepipe, etc. We could have made a dozen more heating stoves and sold them, but were unable to secure the drafts and legs, which are cast, in time for use. The heaters made were larger than before and sold for \$10 each, making a good profit for the workmen. Tanks for cooking the oil out of fish were made of galvanized iron and sold for \$17 each.

The shop has been a great help to the people of the village. It has saved many trips to Haines, and often the article made was more suited to the needs of the native than any that could have been purchased. Many good suggestions were given by the natives and followed to advantage in our work.



*Agricultural work.*—Several new experiments were carried on in agriculture. Kafir corn grew to about 5 feet in height but did not mature; beardless barley grew well and matured a fair crop. Canadian field peas proved a great success, most of the crop ripening and furnishing an abundance of forage as well as seed, which will prove of great value here. Mangels grew 18 inches long; sugar beets did well; millet just began to head when the frost came. Alfalfa made a good growth; it has not been winter killed since I began to plant it two years ago. I cut two crops last year and the season was dry. Corn did not do so well as usual; potatoes matured a good crop and were dry and mealy; beets grew nicely. Swiss chard was especially good, the stalks being about 3 inches broad and 16 inches long. Tomatoes were ripened out of doors; there were quantities of green ones, and we found that many could be ripened in the house. A few cucumbers were raised. We had several cuttings of asparagus; the stalks were strong and healthy. Rhubarb is always good. We have been unable to obtain a good crop of strawberries as many of them are knotty. Peas were exceedingly fine and the crop abundant. The beans were the best I have seen anywhere; they were not left to mature as they were the snap variety. Kale and cabbage are always good. Radishes, turnips, and rutabagas grew well but were infested with the root maggot. Cauliflower formed beautiful heads of the very best quality. Kohlrabi was very large and solid. Parsnips were as good as can be grown.

The natives took much interest in their gardens and raised very good crops. Their main crop was potatoes, but other vegetables, also flowers, were raised. The children often go to the woods to gather flowers and they are very fond of the bright-colored ones. Every garden has to be fenced to protect it from the dogs. There was not so much new land cleared as usual, as the natives had no team with which to break it. The nettles do not interfere much with the gardens, although there are plenty of them. Mares-tail is a great pest and has nearly taken up some garden plots. It is hard to get rid of.

Plans are being made for an agricultural fair this fall. Prizes are to be given for the best gardens and vegetables.

*Medical work and sanitation.*—This work was carried on under the direction of Mrs. Shaver. There was an epidemic of measles in our village, which affected nearly every child. There were three deaths of children who were not strong and had been sick before. Aside from the above, the village has been quite free from sickness.

This spring a general village clean up took place. Eleven wagon loads of tin cans, etc., were hauled and dumped into the river. A clean-up this fall should leave the village in very good condition.

Dr. Craig has given us his help and advice at all times in the treatment of illness and in maintaining sanitary conditions, which we have appreciated very much.

*The cooperative store.*—The store did over \$10,000 worth of business last year with a net profit of 15 per cent to the stockholders. This profit was divided as follows: Six per cent was paid on stock, six per cent on purchases, and three per cent was placed in a reserve. Some of the older natives were not satisfied with the profits because they had dropped off from those of preceding years. The high cost of supplies was the cause. The reduced profits on package goods was hard to overcome as there was often an advance of a cent or two on a package. We do not have pennies, so could hardly raise the price, which cut down the profits that much. At present the prices have advanced so much that our prices have been advanced accordingly. Unless something unforeseen happens our profits will be very good by the close of the year.

In connection with the store I might add that the credits are a great drawback. There is generally one of two causes for them. It is very seldom that the party asking credit has no money, but because a certain amount has been laid away for the big potlatch. This is never touched, even though the family is in want. The other reason, which is the cause of most of the credits, and which is being overcome gradually, is the fact that the native must see and handle the money in a transaction in

order to know the profit made. Guns, ammunition, and the food used on a hunt are almost always bought on credit when the proceeds of the hunt are to be sold. When the furs or meat obtained in the hunt are sold, the store bill is paid and the money in hand is the profit. If the hunt is not successful the bill may be one of long standing.

*Hunting and trapping.*—The natives had a good catch of furs last winter and realized good prices for most of their catch. Traders paid between \$8 and \$12 for lynx, while those handled through our department at Seattle brought nearly twice that amount. The furs handled by our department netted the natives \$3,606.16, which was about half the catch. Some of the natives shipped their furs to Chicago and St. Louis, but they did not realize nearly so much as did those who sold their furs in Seattle. Circulars showing big prices still play a prominent part in attracting the native shipper. The returns have nearly always been disappointing. Next winter will see nearly all of the furs sold where there are competitive bids. The furs of 16 natives were shipped from Klukwan and handled by our department. One man's furs netted him over \$1,100 for three months' work. A native of Klukwan by the name of Gundagain was offered by a trader \$28 for four skins. He received through the bureau \$60.90 for the same furs. Another was offered \$27 and received over \$47 net. A trader paid \$12 each for some lynx skins but bought a most beautiful black fox skin for \$250 that should have brought three times that amount. The bureau, no doubt, receives many knocks for helping the natives to dispose of their furs, but I feel that this is one of the best ways by which we can instill confidence in them and get them to realize that we have their interests at heart.

*Fishing.*—The natives of Klukwan did fairly well in their fishing. They received about \$10,000 for fish and for work at the cannery. Not all of this came to Klukwan, as some of our people went away to work after the cannery season closed. Most of them obtained employment in the mines at or near Juneau. This work added between \$2,500 and \$3,000 to their earnings. Most of this sum was put away until after death to be given away in a big potlatch. Everything given away at that time is supposed to go into the hereafter to help the soul in the spirit world.

*Canning.*—About 500 pint and 200 quart glass jars were filled with fish, vegetables, and berries. Some of the natives took advantage of the opportunity and used the canner. They had no trouble about the berries and fish keeping.

*Goats.*—The goats came through the winter in better condition than usual. Two kids have been raised. They may become acclimated and in time prove of value here.

*Old customs.*—The big potlatch was held at Yendistuckie, where the feasting lasted for two weeks. This village is about 19 miles from Klukwan. Most of the people from our village and Haines were there. The only ones not going, I think, were those not invited. I have not been able to find out just how the potlatch was conducted, as it was too far from here and school had just started. One native gave away \$1,000 in addition to the food he furnished. This must have been an unusual amount of money, as there was lots of talk about it. They had the white man's dance every afternoon and evening. There was one day when they did not let the whites in. I was not able to find out what took place at that time. When the people returned they said they did not know that it was to be an old-custom affair, but that when they got there they could not get away. The truth is that this feasting will fill many an evening with gossip, and they would not have missed it for anything.

The next potlatch was held at Douglas and was given by a native merchant of that place. The natives were given to understand that this was not to be an old-custom affair, but to dedicate a native brotherhood hall. It, however, turned out to be otherwise. The Klukwan band was invited with the promise of a handsome present, but did not receive enough to pay its expenses. Most of these feasts end in dissatisfaction of some kind.

In order to counteract these practices we should give the natives something to take their place. We do this in part by our school entertainments and parties, but they

to get together in their own way at times. We need more room in which to enter the natives of the village. The new basement for the school building will help us wonderfully.

## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT HYDABURG, IN SOUTHEASTERN ALASKA.

BY MARK SAID, TEACHER.

Hydaburg school opened October 2, 1916, and closed April 27, 1917, thus completing its sixth year. A total of 103 was enrolled, with an average attendance of 61. All grammar grades, excepting the fifth, were taught in the three rooms. After business the regular work was supplemented twice a week by manual training for the older boys and sewing and cooking for the girls.

The census of Hydaburg for 1916-17 shows a population of 335. During the year ending June 30 there have been 19 births and 25 deaths. The excessive mortality is largely due to the ravages of an epidemic of measles, which broke out in December and was so general that school was closed during that month. During the progress of the disease, 157 people were sick; at one time the teachers were caring for 125 patients. The measles alone proved fatal in but one or two cases; but five tubercular boys, when left in a weakened condition by the measles, were quickly carried away by the same disease; five other children followed within two months. Of those who died, there were young people between the ages of 10 and 20 years, 13 were babies, and but 3 were adults. Tuberculosis and its menigial complications claimed 75 per cent of the number.

Early in October the people organized logging, milling, and building crews, and began the construction of a new church. Before snow fell the frame was up and finished and the roof was on. This is to be a church belonging entirely to the people by accepting no help from the mission board's building fund. All the labor is donated and the Forest Service has allowed free use on stumpage for the lumber. In the fall the bureau authorized the erection of a teacher's residence at Hydaburg. A plan was selected, and the lumber was cut to fit the plan in Seattle and forwarded to Hydaburg.

After Christmas the interests of the townspeople centered in industrial progress. A new dock, measuring 44 by 96 feet, with an approach 360 feet long and 16 feet wide, was completed. It is located at the southern end of the town. The dock is substantially built, resting on hemlock piles, faced three sides with spruce fender piles, and surfaced with 2 by 12 spruce planking. At the shore end the foundation for a warehouse to be used in connection with a cannery, was completed and part of the framework of the building was set up. On the north side of this structure the foundation for a cannery building to measure 40 by 100 feet was about half finished. For setting the piling for this work, a steam pile driver was rented from Sulzer at an expense of \$10 per day. The driver was in use for 19 days at an expense to the trading company of \$190. This was paid for in logs.

These construction operations kept an average of 20 men working for three months. Every man in town put in some time at the work. Wages, fixed by the stockholders of the trading company in open meeting, were 30 cents per hour for workmen and 25 cents for bosses. Most of the earnings were applied to pay up accounts owing the trading company by the laborers, and the surplus went to purchase stock in that company, it being agreed that such stock should not draw dividends until the cannery produced profits from operation. The mill crews and the logging crews were also paid in this manner, and during the period the trading company collected \$4,042.80 on current and back accounts, and the net increase in the accounts receivable was added to \$10.24; \$500 worth of stock was sold.

The sawmill has been very busy this spring. Between January 15 and May 31 it has cut 300,000 feet of lumber. Of this, 65,000 feet went into the construction of the new dock, 10,200 feet into the warehouse and cannery foundations, and about 200,000 feet have been sold, bringing the company \$3,800. This amount does not represent a profit. To expect efficient service or dividends of the mill in its present condition is out of the question. The equipment is becoming so worn that frequent stoppage for repairs is necessary.

On the 1st of June the King salmon began to run and the mill crew followed the rest of the town to the fishing grounds. The King salmon fishing has been excellent this season. Many of the fishermen have earned more than \$150. One boat has made about \$800 in a month's time. Led by reports of business possibilities for the store in a location where many people camp for the King salmon season the trading company erected a small building and sent out a stock of goods this spring. This season the fish did not elect to swim in the neighborhood of the store, the people scattered to find the fish, and the venture will but little more than pay expenses.

The experience of the past year suggests the following recommendations: One man in Hyدابurg is not enough to take care of the town's growing needs. There should be one man to attend to the industrial, commercial, and civic activities, and one to devote his time to the school and social life. A competent doctor or nurse with headquarters in Hyدابurg is of paramount importance. In order to operate on a dividend-paying basis, the sawmill should be reconstructed in a new location, equipped with more power, a band saw and a larger planer, and the company should own a logging donkey engine. And, lastly, by the installation of a cannery, the town would gain, not only economically but mentally, morally, and physically.

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## ANNUAL REPORT OF THE UNITED STATES PUBLIC SCHOOL AT KLAWOCK, IN SOUTHEASTERN ALASKA.

BY CHARLES E. HIBBS, TEACHER.

On account of the lateness of the canning season, school did not begin until the 1st of October. Most of the patrons of the school had returned to their homes by this time and we were able to begin school with a very good attendance, which was maintained throughout the school year. Our first month showed an enrollment of 69 pupils while our average attendance for the year was 63½. The total enrollment for the year was 88.

Mrs. Hibbs, taking the same grades she had the previous year, was able in a very short time to have all the pupils in her room properly located and doing their regular work. This is the first time since entering the native service I have had the opportunity of seeing the advantage gained by returning teachers to former positions, and the results show out much more plainly than in the white schools of the State. Every possible means should be used to retain teachers from year to year on account of the extra amount of work they are able to accomplish.

In all reading in the grades special effort was placed on the use of phonics, or the sound method, with very satisfactory results. The pupils have become very efficient in their ability to prepare reading lessons unassisted and also in reading them. Story telling was productive of good results both in memory training and in the use of English. The pupils enjoyed this work very much, for most of them have enough of an English vocabulary to understand the stories and data given them.

Much time in arithmetic in the grades was given to oral and mental practice and drill in the four fundamentals. I believe the grades here will fall very little below the respective grades in the States in this work.

More and better work was done in domestic science during the past year than during any previous year. This was not only conducive of good results among the

children but also awakened much interest and enthusiasm among the parents. Much practical work was done in the making of clothing and quilts as well as in crocheting and knitting.

We have enjoyed the most satisfactory year in the Klawock Commercial Co. since my coming to Klawock. Our greatest difficulty lies in the amount of credit we are almost compelled to give. However, we have been steadily gaining, and while at times the credit system caused some little embarrassment on our part in our dealings with the wholesale houses we are now on a fairly firm foundation and feel quite sure of our position. Last winter when our books were audited we gave a 12 per cent dividend and placed 2 per cent in the business. This established much more confidence in the village and we are yet increasing our stock. We hope in the near future to establish a sawmill and cannery in connection with the store. There was much talk of a small hand cannery last winter, but the sharp advance in tin caused us to hold up these plans until better inducements can be obtained in tin and machinery. A small sawmill is much needed here, as with the growth of the village much sidewalk material is needed as well as building material. The bureau should extend every effort in helping us to secure this mill, as it would be a great encouragement to the people of Shakan and Karheen who are moving here for school privileges. With a little encouragement from the bureau I feel it is but a short time until we can have all the Thlingets of the west coast of Prince of Wales located at Klawock as the Hydabs are now located at Hyدابurg.

The people of Klawock have been exceptionally healthy during the past year, having had no deaths in the village. But a resident of the village died at a fish camp. Several, however, are in the last stages of tuberculosis and can last but a short time. The medical work during the past year was considerably lighter than the previous year and the assistance rendered by the teacher of sanitation was also very valuable. If it is impossible to establish hospitals at these villages I would suggest a building be arranged with two or three beds with a nurse placed in charge. In the serious cases medical aid can be secured from Craig, 6 miles distant. It is impossible to treat many of the more simple cases satisfactorily in the homes on account of the unsanitary conditions and the unreliability of the natives in giving medicines.

We have had very little trouble in the village during the past year. The town council has enacted some very creditable laws and very successfully enforced many of them. The council elected last fall seems to realize more than the previous and first council the duties resting on them and the powers intrusted to them and have performed their duties in a very creditable manner. Most of the people from the village of Shakan moved here last winter, and the people from Karheen expect to move here this fall. This will materially increase our population and unite almost all the Thlingets on the island. We hope to finish our school building this summer and get our village surveyed. The new part of the village will be occupied by the new citizens and a few of our better families that wish to get better homes in a less crowded section than that in which they are now living. These things are all encouraging, and while we feel much has been accomplished during the past year we hope with better conditions and facilities to accomplish much more during the next year.

The parents as well as pupils take much interest and pleasure in school entertainments and two very successful ones were given during the winter. We have already raised \$45 toward a printing press for the school.

At one of our entertainments I had an exhibition of military drill which was so well received that I decided to continue the drill among the boys in school. I feel the time was well spent in the lessons of discipline taught as well as the physical exercise obtained.

Toward spring I suggested to some of the pupils as well as parents that we organize a school band. This was enthusiastically received and the village furnished us with instruments. Sixteen boys took part, ranging from 8 to 13 years, and after two months'

practice were able to make a very creditable showing. While I do not feel the necessity in the school work here, it worked up great interest in the school among parents and assisted so much in punctual attendance, both among the members of the band and those that enjoyed coming early to hear the practice, that I believe it was well worth the effort and should be continued. We practiced each morning from eight and it was not unusual to have boys at the schoolhouse before seven o'clock in the morning for practice.

After the holidays a musical and literary society was organized, holding meetings once each week. Any one in the village able to speak the English language was eligible to membership, and only English was to be spoken in the society hall. Many of the older people could not understand the mission of this society at first and refused to attend or allow their children to attend. Some were faithful, however, and membership and attendance kept growing until we found the school auditorium small for the gatherings. They took especial delight in debating; even school children just in their teens taking part. The judgment used in selecting subjects and the ability with which they were handled were very gratifying.

I believe the time and effort put forth for the Metlakatla-Hydaburg-Klaskan school fair was well spent. While the people of Klawock are very jubilant over the results of the fair, I am convinced that the time has not yet come for competition among the natives, when it is those from different tribes that are contesting. I have worked with two tribes and find the idea prevalent that each is the chosen one. They yet delight in relating the prowess of their forefathers in overcoming the warriors of the other tribes and cannot take defeat graciously. This competition, regardless of the fairness of the judges, only tends to intensify this feeling of rivalry we are trying to stamp out, and what we gain from an educational standpoint is in keeping open this old hatred that must be allayed to establish a union of the natives for common good. I would recommend that these fairs be held annually, each school putting its best or what it has at hand on exhibition; a regular program of educational value for patrons and teachers should be given each day, and each night be given each school for an entertainment for the benefit of those in attendance.

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#### EXTRACTS FROM THE REPORT OF THE GOVERNOR OF ALASKA.

*The natives of Alaska.*—The economic conditions among the native population of Alaska have changed considerably during the past year. Those depending on hunting for their main livelihood have not only faced a scarcity of pelts, but have found that prices were below normal on account of the war. On the other hand, the prices of food and other supplies which have to be shipped in from the States has increased to 300 per cent. Added to this, in a good many sections, there has also been a scarcity of fish during the year, which has reduced their winter supply of this food article.

To combat the above conditions, the United States Bureau of Education, through the agency of its teachers in Alaska, issued instructions urging the natives to live as much as possible independently of food supplies and manufactured articles which have to be brought from the outside, and to conserve the native products not only for their own salvation but for the assistance they thereby render the country in which it is engaged. To this end the native, as a farmer, is gradually becoming a factor in the development of the Territory. Through its schools in Alaska, the Bureau of Education is attempting to teach the natives the advantages of having their own gardens in which to raise foodstuffs, not only for their own use, but for the use of miners and others in their vicinity. The products of the Kuskokwim, Kotzebue Sound, and upper Yukon regions are very creditable and show great promise. It has been difficult in the past to impress upon the natives the advisability of continuing with their gardens until the crops are assured. They have to combat

general tendency to leave their homes in order to go fishing. While it is necessary for them to obtain fish as well as vegetables, the two can be combined if handled intelligently.

Under the present laws it is possible for natives to acquire allotments of land in Alaska. To date their usefulness has been rather doubtful. The allotments as now made are really too small for hunting purposes and too large for farms. The native has not yet reached the stage where he can handle intelligently a 160-acre farm, even if he were in a position to clear it and put it under cultivation. Up to the present it has only been possible for him to handle a good-sized garden. After he has learned the lesson well and the advantage of the latter, he will then be in a position to undertake the cultivation of a 5-acre farm.

The native is also learning to avail himself of banking facilities. Through the Bureau of Education in Seattle it has been possible for him, for several years, to send his furs and other products to be sold in Seattle, thereby assuring him the highest return for his peltry. The money which he has then to his credit is either used in supplying him such supplies as he must have, or, if it is not needed for this purpose, is usually kept by the bureau for him and placed at interest. The chief of the Alaska Division is under bond for taking care of these matters for the natives, and in the past year approximately \$20,000 was handled in this manner for them. All such accounts handled by the chief of the Alaska division are audited quarterly. Those of the natives who desire and are able to handle their own accounts have been given for individual savings and checking accounts.

The natives continue to avail themselves of the Alaska legislative provision of 1915 citizenship. Also several villages have been organized in accordance with the law passed by the same legislature. Up to the present most of these have been in eastern Alaska, where the natives appear to be the most progressive. When a village is properly organized, a council manages its affairs in a very creditable manner, and improved conditions are always the result of such management.

The bureau has collected miscellaneous statistics in regard to the native population, and while complete returns have not been received from all sections of the Territory, sufficient statistics have been received to make possible a survey of the natives and their conditions. Reports were received from 88 villages in Alaska, having a total population of 9,234. Of this number it appears that 5,028 are adults, 2,655 children of school age, and 1,551 children under school age. Of the 5,028 adults, 1,311 can read and write, and of the 2,655 children of school age, 1,599 can read and write. Of the population there are 53 engineers, 82 pilots, 36 captains, 13 teachers, 28 preachers, 119 carpenters, 306 reindeer men, and 59 miners, the remainder being classified as fishermen and trappers.

Their progress toward adopting civilized habitations may be noted in the fact that of the 2,522 domiciles in which this population lives, 1,509 are frame or log buildings, of which 341 are three-room, 317 two-room, and 851 one-room capacity. Of the entire 2,522 dwellings, but 597 could be classified as shacks or igloos. In addition to these dwellings, 88 villages had a total of 54 community buildings, such as town halls, cooperative store buildings, etc.

Another interesting phase of the statistics bearing on the progress made by the natives is that relating to means of navigation. A native boat to the average person means a crudely fashioned craft of skins and sinews. While the latter are still in evidence, especially along the Arctic shores, the bureau's statistics show that, in addition to the 431 skin boats and 163 birch-bark canoes, there are 1,325 wooden boats, of which 149 are sailboats of an average tonnage of 4.8 and 208 power boats of 4.9 average tonnage, equipped with 8.4 average horsepower engines. When the fact is taken into consideration that these statistics cover less than 40 per cent of the native population

of Alaska, it is remarkable to note how they have availed themselves of modern conveniences and adapted them to their needs. In southeastern Alaska the native fishermen equipped with power boats are no small asset to the salmon industry of the Territory. Most of such boats have been built by the native owners. They not only possess such ability to a marked degree, but the care and handling of gas engines appear natural to them. Their acquisition of civilization's conveniences may be emphasized by the fact that these 9,000 natives own 1,843 sewing machines and such home furnishings as 132 organs, 2,078 clocks, 1,563 phonographs, and 1,837 bedsteads.

The fact that the Alaska natives are not a dependent people can not be overemphasized in order to give them the credit they deserve for successfully fighting for an existence in the face of rapidly changing conditions, caused by coming in contact with the white man. Although the native has had to rearrange his mode of living and to a certain extent, his method of securing his livelihood, he has rarely been forced to ask for aid. The Bureau of Education has, during the past year, expended but \$2,000 for the relief of destitution. That is 8 cents per capita, based on a native population of 25,000. In most cases the relief was given only on account of temporary destitution, and return of wood and labor was received in payment of the supplies given. The net amount expended for destitution, therefore, is almost negligible. With a little foresight on the part of the Federal Government, the natives' future and permanent independence can be assured.

In such sections of Alaska where reindeer have been distributed the natives' economic independence is already established. However, such sections are restricted to the coastal regions, western, and northwestern Alaska. The value of the reindeer industry to the natives of Alaska can not be overestimated, and the introduction of this industry into Alaska will ever remain a noteworthy example of one of the Government's constructive policies. The Bureau of Education, to whose credit the successful management of the industry belongs, having thus established its ability to deal with the problems of the natives, should be given by Congress the additional means it needs and has asked for so many years with which to establish the natives of the entire Territory on a permanent economic basis.

The present appropriation for the education of the natives of Alaska, \$200,000, is the same as it was in 1908. It is obviously impossible for the bureau to enlarge its work, provide for vocational training, establish boarding schools, etc., when every dollar is needed to maintain the school service already established. When the vast territory that has to be covered is taken into consideration and the fact that the native communities rarely exceed two or three hundred in number, together with the cost of reaching most of the isolated native villages and the ever-increasing cost of supplies and material necessary to a school system, it is surprising that the bureau is able to maintain its 70 schools on such a small appropriation and secure the results which have been obtained. Congress must be made to realize the importance of providing adequately for the natives of Alaska. They already bear their share of the taxes. Quite a number are availing themselves of citizenship, as well as organizing their villages. Given means to properly guide the natives in their acquisition of civilization, the Bureau of Education should have no difficulty in transforming the natives into self-reliant and useful citizens. They are unquestionably an asset to Alaska, and their development is of paramount importance to the best interests of the Territory. In addition to the increased educational appropriation, the Bureau of Education should have at its disposal a reimbursable fund with which to establish industries among the natives. Since the majority of the natives live in their own communities, the establishment of such industries would not mean competition with white enterprise, but rather the development of native resources within these communities. The success of the cooperative stores already established in nine villages without the aid of Government funds demonstrates what can be done along this line under proper supervision. Two of these native store companies not only do a general mercantile business but



manage sawmills which produce lumber for their own communities and for neighboring towns as well.

For obvious reasons the Bureau of Education has encouraged the establishment of larger villages. This end is secured by a policy of setting aside selected tracts through Executive orders for the use of natives exclusively, and the establishment thereon of suitable and attractive industries. The bureau is thus able to secure a maximum amount of benefit for a larger number of natives than is possible when they are scattered in more or less isolated and small villages. This policy at present is in its infancy, but sufficient progress has been made to clearly demonstrate its feasibility in parts of Alaska. Much along this line can not be done, however, unless appropriations are available with which to launch the industrial enterprises necessary to the success of such native reserves and to maintain and equip schools adequate to meet the needs of natives attracted to such reserves. These reserves are in no sense to be confused with the Indian reservations of the States. The reserves in Alaska are set aside merely for the use of natives, and residence upon them in no way curtails the freedom of the native. In his present state he is no match for his keener white brother and his interests must, therefore, be protected. Equally important with his educational and industrial development is the proper care of the native's physical well-being. Here again the vast area to be covered and the scattered villages to be provided for make the task colossal. The native of Alaska has great recuperative power and needs in many cases only a little medical aid or advice. This can usually be given by the teacher, if a native school is at hand. There are, however, many chronic cases in practically every village which are in most urgent need of a physician's care and treatment. Having an appropriation of but \$50,000, the Bureau of Education is utterly unable to cope with the situation.

Trachoma, tuberculosis, and venereal diseases are the most common of their afflictions and must be combated energetically to save the natives from extermination. Unless the appropriations for medical relief keep pace with those for educational and industrial matters, the latter will be practically useless. The responsibility for this lack of attention lies wholly with Congress. The needs, particularly the medical, have been presented to Congress time and again by various agencies, with no result except appropriations that are inadequate and that can not possibly meet the needs of the situation. When one considers that a seaman with but 60 days' service has at his disposal free medical and hospital care under the United States Public Health Service in any United States port, whenever it is needed, it seems rank discrimination to permit the natives of Alaska, who are practically helpless without such aid, to go unattended. Not only is it necessary to provide this aid for the sake of those afflicted, but also for those who may yet remain well. Equally important is the consideration for the white population, as the physical deficiencies of the natives, unless promptly attended to, become a menace to their white neighbors.

*The Alaska native school service.*—Seventy schools, of which two were summer schools only, were maintained by the Bureau of Education during the past year. The total enrollment was 3,600. Most of these schools included the elementary grades only, presided over by one of the teachers. In some of the larger villages more advanced work, up to the eighth or ninth grade, was done, as at Metlakatla, Hydaburg, Unalakleet, Wales, and Barrow, where from three to six teachers are employed. The curriculum covered includes not only the three "R's," but such practical subjects as manual training, domestic science, agriculture, sanitation and hygiene; and, in order that the adults may have similar advantages, evening classes are held in the schoolrooms and meetings for the women of the villages are held afternoons at regular intervals. Thus the entire village comes in contact with the school and enjoys its benefits. The influence of these schools, therefore, can not be gauged by reports of the enrollment of the day school.

Quite often the teachers are the only white people in the native communities and the natives, therefore, naturally look to them for guidance, counsel, and assistance in matters concerning their welfare. In addition to the schoolroom duties the teachers devote themselves to "settlement" work and by practical advice and example improve the modes of living of their villagers. The teachers in this service must, therefore, not only possess pedagogical ability, but must be all-around, practical people who can be of service to the entire community. Each school is also provided with a well-selected assortment of medicines with which to alleviate the minor ailments and sufferings of the people. The more medical knowledge a teacher possesses the more effective is this important phase of the work. The schoolroom work of the native boys and girls makes a very creditable showing, comparing very favorably with that done in white schools. During February a southeastern Alaska school fair was held at Metlakatla at which exhibits from most of the schools of the district were shown. Delegations from Klawock and Hydaburg attended and the usual contests between these two schools and Metlakatla were events of the week. Properly engraved certificates were awarded to the victorious contestants and the owners of the best exhibits. This fair was the first of its kind and will probably be an annual event, being not only of benefit to the native children and an inspiration for their best efforts, but also an opportunity for the teachers of the schools to compare methods and be of mutual assistance. The industrial work which is of such importance to the natives is gradually being developed. The progress which has been made, however, has been handicapped because of a lack of funds. Just as important as a practical education is to the native children is the assistance which adults need along industrial lines. Enough has been done to demonstrate that such an investment is secure and will bring a very satisfactory return. However, this has been accomplished practically without Federal aid. If a large number of natives are to be taught industrial independence a reimbursable fund is necessary, which can be used for the launching of native enterprises, properly supervised, returns to the fund being made by annual installments, the fund thus replenished being used in the launching of other enterprises. The Bureau of Education has for several years asked for \$25,000 for this purpose, and it is to be hoped that it will be granted at the next regular session of the Congress.

There are at present 10 native cooperative store companies in Alaska whose local affairs are supervised and the books kept by the teachers located at the places where the stores are maintained. Two of them have sawmills with which they produce lumber for local use and wherever a market may be had. The accounts of these store companies are annually audited. By an adequate accounting system which makes possible definite statements in regard to business these native companies are of invaluable educational benefit to the native stockholders. They are uniformly successful and are a credit to the natives, having been capitalized with their own money and credit received from Seattle wholesale houses and are managed entirely by themselves, except for the advice and oversight of the teacher.

Agriculture is being developed through school gardens with very gratifying results. These school gardens may be found in almost every section of Alaska, and through this agency not only the interest of the younger generation is being stimulated, but that of the entire village. The energy expended on their gardens will bring especially good returns this year, when the prices of food of all kinds are almost prohibitive. By a large production of vegetables and the storage of large quantities of dried fish, canned berries, and other local products the natives can live almost independently of outside supplies, thereby contributing materially to the conservation of food in the United States.

Another interesting phase of the industrial work in connection with the native school is being developed on Atka Island. As an experiment two head of cattle were shipped there by the Bureau of Education five years ago. This small herd has

now increased to eight head. A silo has been erected, the ensilage being made of the luxuriant grass of the island, on which the cattle seem to thrive.

Not a small share of the success of this school service is due to the well organized supervision given the schools. The Territory is divided into five districts, each of which is in charge of a superintendent directly responsible to the chief of the Alaska division in Seattle. These superintendents are required to visit each school at least once a year, which, in addition to always being in close touch with the local conditions of each school, makes a uniform and efficient school system possible. The superintendents travel by means of regular steamers, launches, dog teams, and reindeer. In the western and northwestern districts the reindeer is the only means of transportation used by the superintendents during the winter, and the hundreds of miles traversed by them is indisputable proof of the feasibility of reindeer for transportation. In order to properly protect the natives' interest, the rules and regulations of the service forbid its employees from engaging in trade for profit. During the years of its existence there has been but one noteworthy example of the transgression of this rule. This occurred at Wainwright, Alaska, during the fiscal year 1915-16. The teacher in charge and his wife traded with the natives during the winter for white fox skins to such a successful extent that when the skins were sold upon their arrival in Seattle the following summer they found themselves temporarily richer by the net profits of over \$3,000. Action against them was immediately taken by the Bureau of Education, and one-half of the amount was recovered for the Wainwright natives. This money was used the next year as a nucleus for a cooperative store at that place. The matter was settled by compromise, and a larger recovery would have been probable except for the fact that it was claimed that the trading had been done by the teacher's wife, who was not under actual appointment by the Bureau of Education. The amended regulations now apply to all members of the teacher's family who reside with the teacher in quarters furnished by the Bureau.

A very important need of the bureau for the successful conduct of its schools is a power schooner. The bureau must necessarily place its schools where the natives have their villages. Consequently, many are located out of the paths of the regular transportation lines. Hence every summer the bureau is hard put to secure suitable vessels in which to ship the annual supplies to these inaccessible places. Usually such suitable vessels have to be paid exorbitant rates to induce them to call at these points. Added to this is the uncertainty of these vessels making such calls before navigation closes. Of paramount importance is the safety of the people who are sent as teachers. The means by which it has been necessary to get the teachers to some of these posts are without question hazardous and inadequate. The people who are willing to undertake the work at these lonesome stations should not be asked to take all these unnecessary risks to their lives and the inconveniences which at present are required of them. If the bureau had a boat of 350 or 400 tons capacity, it could carry teachers and deliver the supplies promptly, safely, and economically. To reach the stations in the Bering Sea and the Arctic Ocean, except the few that are ports of call for regular steamers, is an ever present worry to the officials of the bureau. After such a boat had served its usefulness it could be used as a training ship for the native boys of southeastern Alaska. This phase alone, were no other considered, should justify the acquisition of the boat in question.

*The Metlakatla Indians.*—Affairs at Metlakatla assumed a somewhat more definite shape during the past year. The legality of the fishery reserve having been reaffirmed by the circuit board of appeals, definite plans for the development of this interesting colony are now being formulated. While the Bureau of Education would have preferred to have handled the colony on a native cooperative basis, sufficient capital could not be raised. Neither were Federal appropriations available for this purpose. The fire in May, 1916, which destroyed the old cannery buildings,

automatically canceled the agreement with the P. E. Harris Co. for the rehabilitating and operation of the cannery for a period of five years. Negotiations were, therefore, opened for again leasing the cannery and fishing privileges of the island. Two good offers were made by J. L. Smiley and C. L. Burkhardt. The bid of the former was considered the more attractive by the council of Metlakatla and the Interior Department and was accepted. Under the terms of the agreement the cannery is to be rebuilt in time for use during the season of 1918, beyond which the cannery is to be operated for four additional years. At the end of this period the revenue accruing from the contract, consisting of 1 cent per fish for all fish taken in traps from the reserve by the lessee, is expected to be sufficient to enable the Interior Department to take over the property of the lessee, after which the cannery will be run by the native cooperative company which was organized in 1916, under the name of the Metlakatla Commercial Co. This company is now doing a general mercantile business and is managing the sawmill, which has produced most of the lumber for the new cannery buildings that are nearing completion at the present time. Originally organized with a capital of \$2,295, the present paid-up stock of the Metlakatla Commercial Co. is \$7,375. A continued growth will place this company on a firm financial basis and will enable it to take over the cannery at the expiration of the present lease. Through the means thus afforded the economic restoration of this colony is assured, not only in the final possession of the cooperating cannery, but the wages and incomes thus assured the inhabitants during successive years. Considerable opposition to this reserve has at times been evidenced by various people, but the opposition invariably, it would seem, reveal selfish motives.

Alaska has miles and miles of territory in which the progressive white man is well able to secure a good return for his energy. Efforts which aim at the overthrow of the protection given a few Indians through the setting aside of a small island in order that they may live happily and contentedly must be condemned. If it were possible for the objectors to view the matter from a broad, humanitarian standpoint, their objections would unquestionably cease. The repeated statement that the Annette Island fishery reserve was made for the benefit of "foreign" Indians who migrated from British Columbia fails of itself when confronted with the fact that over three-fourths of the inhabitants of Metlakatla were born in Alaska. The Metlakatians are already one of the most progressive tribes in Alaska, and if the Bureau of Education is left unhampered by outside influence this native community will undoubtedly become one of the most prosperous and contented in the Territory. The bureau has already established an excellent day school, whose efficiency will be increased when the present building is completed. The remaining wing will include a gymnasium, an auditorium, shower baths, domestic science and manual training rooms, two additional schoolrooms, and a small surgery. Added to this will be the machine shop of the lessee of the cannery, which will be available during the winter for the classes from the school. With this equipment as a nucleus, the way is opened, with but a little additional outlay, for a small boarding and industrial school for advanced pupils from southeastern Alaska.

At present many native children are sent to the States to attend the Cushman and Chemawa schools, under the Bureau of Indian Affairs, for advanced training as well as elementary education. This course has proved very disastrous, as the change in climate usually impairs their health to such an extent that tuberculosis is contracted, after which the decline is rapid, and the complete change in environment has a fatal effect upon the pupil's future usefulness. The conditions under which pupils live in the training schools are radically different from their previous environments. The trades they learn are frequently useless when they return to their homes, and the ideas and views of life which are the result of the life at a school where every act is according to a well-ordered program, which thereby displaces individual responsibility, make it difficult for them to readjust themselves to the environment of the

native villages when they again reach their home. All this, combined with impaired health, makes such pupils practically failures when they return home. The training schools for these native pupils must be located in Alaska, under conditions similar to their previous environments, where health will not be impaired but rather improved on account of supervision and where only such practical subjects will be taught as will be useful to them in the future.

*Needs of the service.*—The needs of this service may, therefore, be summed up in four main points, all of which are dependent on increased appropriations from Congress:

First. More schools. As already shown, actual schoolroom work, while important, is but a small part of the beneficent results of the establishment of a school in a native community. There are numerous villages in Alaska of sufficient size to more than justify the establishment of schools.

Second. A reimbursable fund with which to establish industrial enterprises among the natives as an insurance for economic independence.

Third. A power schooner to be used as a freighter and as a training ship.

Fourth. An industrial training school in southeastern Alaska for advanced pupils.

*The Alaska native medical service.*—This service is under the Bureau of Education, with the advice and cooperation of the United States Public Health Service. The appropriation for this work for the past year was \$50,000, which was \$25,000 more than the first appropriation ever made for medical relief among the natives, granted the previous year. Before that a portion of the educational appropriation had been used for this purpose. The present appropriation just about covers the work previously supported under the educational fund. The past year a well-equipped and complete hospital was maintained at Juneau, having a capacity of 20 patients and a staff consisting of a physician, three nurses, an orderly, janitor, cook, and interpreter. From the fact that the hospital was kept filled the greater part of the year, one may judge of the long-felt need it is filling and the great service it is to the native population of southeastern Alaska. Small hospitals, housed in former school buildings, were also maintained at Kanakanak on Bristol Bay and Nulato on the Yukon, each of which was in charge of a physician and one nurse. The one at Kanakanak is now being enlarged and altered, which, upon completion, will make it a modern and complete hospital of 11 beds' capacity. In addition to the three physicians in charge at these hospitals, the bureau had under appointment a physician at Nome and at Cordova and contracts with physicians at Council, Candle, and Ellamar. In addition to the nurses at the three hospitals, a nurse was stationed at St. Michael, Koggiung on Bristol Bay, and Akiak on the Kuskokwim; also two traveling nurses in southeastern Alaska. Contracts for the care of native patients were also made at Nome, Ellamar, Anchorage, and Seattle. The last named was a children's orthopedic hospital, to which Alaska native children were sent for special treatment.

Each school has a carefully selected stock of medicines and supplies, which constitutes a small dispensary with which the teacher ministers to the ailments of the inhabitants of the village in which the school is located. Anyone at all familiar with the extent and geography of Alaska will realize instantly the handicap the Bureau of Education is laboring under in attempting to minister to the local native needs with such a limited appropriation. Much has been written and said concerning the relief which the natives should have. Without this relief all other plans for them are necessarily futile. An analysis of the situation causes one almost to agree with the pessimistic alternative that the Congress should either attend to the needs of the natives in a comprehensive and sufficient manner or else do nothing at all and allow the race to die out as quickly as possible. While the service now rendered in a few places mentioned is efficient and valuable, the total results are meager when compared with the total native population. It is almost incomprehensible that Congress, which provides for the Indians of the States with such a lavish hand, can not grant a few

thousands to a people who have never been charges of the Government and who ask for only a little assistance to their own efforts to make them useful and self-reliant citizens.

The Bureau of Education could easily make excellent use of an appropriation of \$200,000. With this sum an effective medical service could be organized with which to meet the needs of these people. While the vast extent of the Territory will always be a handicap in covering this field, the sum mentioned would make possible the establishment of additional hospitals and appointment of physicians at strategical points in the Territory, where the greatest number of serious cases could be treated, and the appointment of nurses in communities not sufficiently populated to justify the establishment of a hospital large enough to warrant the services of competent nurses.

As tuberculosis is so prevalent among the natives, special attention should be given to this disease. The bureau's estimates include the construction of tuberculosis cabins in connection with the hospitals at Akiak and Kanakanak and the erection and maintenance in the Chilkat Valley of a tuberculosis sanitarium of 50 beds. It is to be sincerely hoped that this, as well as the other plans for this urgent work, will be speedily realized. The establishment of hospitals for natives is not only of benefit to the native people, but also to the whites. The present hospitals, excepting Juneau, are, and the proposed hospitals will be, located in sections not served by white hospitals. The appropriation act is so worded as to permit the admission of white patients, and this provision has already proved a godsend to sick and injured miners and prospectors.

There is at present no definite arrangement in regard to supplying the needs of natives in villages where Territorial schools are located. The bureau holds that when white inhabitants of such a village have secured a Territorial school for their community the bureau is not justified in continuing its school in a place where the total population, both native and white, is not large enough to support two schools. Upon the withdrawal of the native school, the bureau no longer has a representative in such a community and is, therefore, not in a position to attempt to look after the natives. It also holds that, since the Territorial school was voluntarily requested, the accompanying responsibility for the care of all the inhabitants and their interests is thereby assumed by the Territorial authorities. However, these local school boards have renounced this responsibility and the Territory has been unable to assist in the matter. Consequently the natives in these communities receive no attention at all. Were the bureau's appropriations sufficiently large to meet the needs of the natives this question would not arise. Under the present conditions, however, the bureau must expend its funds where the greatest benefits to the natives will accrue, and the communities sufficiently populated with white people to justify a Territorial school are not considered as dependent on the bureau's oversight as are more purely native villages.

*Alaska reindeer service.*—Statistics for the year ending June 30, 1917, are not yet available, but a conservative estimate would place the total number of reindeer in Alaska at 95,000. This large number is the result of the introduction into Alaska of 1,280 reindeer from Siberia. The statistics for the year ending June 30, 1916, show a total of 82,151 reindeer, distributed among 85 herds. Of this number, 56,045, or 58 per cent, were owned by 1,293 natives; 3,390, or 4 per cent, by the United States; 5,186, or 6 per cent, by missions; and 17,530, or 22 per cent, by Laplanders and other whites. That this industry is of paramount importance to the natives interested is recognized in the fact that the income of the natives from this industry, exclusive of meat and hides used by themselves, amounted to \$91,430. That the reindeer industry has proved a successful enterprise from a financial standpoint is seen in the following table.

Valuation of 56,045 reindeer owned by natives in 1916, at \$25.....	\$1,401,125
Total income of natives from reindeer, 1893-1916.....	470,837
Valuation of 26,106 reindeer owned by missions, Laplanders, and other whites and the Government in 1916.....	652,650
Total income of missions and Laplanders and other whites from reindeer, 1893-1916.....	146,926
<b>Total valuation and income.....</b>	<b>2,671,538</b>
<b>Total Government appropriations, 1893-1916.....</b>	<b>312,000</b>
<b>Gain (756 per cent).....</b>	<b>2,359,538</b>

This industry was introduced into Alaska for the sole purpose of making the natives economically independent in such portions of Alaska to which the industry could be adapted. In this the industry has been eminently successful. The distribution of reindeer has now been firmly established and the natives affected thereby are assured a livelihood that is usually limited only by the individual's energy. Even in such sections where conditions are not favorable to the opportunities to realize any financial returns from reindeer, his herd provides the native and his family with food, clothing, and transportation, which are sufficient in themselves to prevent him from becoming a charge of the Government.

The distribution of the deer has been accomplished through a system of apprenticeship whereby a native serves four years as apprentice, at the end of which time he owns the deer called for by the contract of apprenticeship, namely, 6 deer the first year, 8 the second, and 10 each the third and fourth years. Having satisfactorily served his apprenticeship, he then becomes a herder and assumes charge of his herd. Each herder is required by the rules and regulations to take apprentices under the same terms that he himself served as apprentice. The distribution is thereby perpetuated and will continue long after the Government itself owns no deer.

While the primary object of the industry is to assist the natives and for this reason has been restricted to them as much as possible, the past three years have seen the entrance of the white man into the enterprise. The rules and regulations forbid natives to sell female deer, except to natives. However, certain Laplanders who were brought to Alaska for the purpose of instructing natives in the care of deer, for which they received reindeer, were not subject to this restriction and consequently a herd of about 1,200 deer was acquired by Lomen & Co., of Nome, during 1914. During 1915 this company, desiring to increase its herd and not finding any more Lapp deer conveniently available, negotiated a purchase of about 1,000 deer from herds of the Swedish Evangelical Mission Covenant of America, at Golovin. These herds were the result of a loan of deer made to the mission during the earlier days of the industry, when it was the desire of the Bureau of Education to distribute the deer as quickly as possible. The appropriations being small and the philanthropic enterprise being in line with missionary work, it was thought that the loan of a small herd to each mission in the field, with the understanding that the same method of distribution to the natives should be used as in the Government herds, would be of mutual assistance and would aid materially in the rapid distribution of the deer. Some of the earlier contracts covering such loans were drawn very loosely. It appears the Golovin mission's loan was made under oral agreement with the then local missionaries. Years later the missionaries had changed and the agreement was gradually forgotten, so that when the offer of about \$18,000 was made by Lomen & Co. it was forthwith accepted. The matter has since been the subject of controversy between the bureau and the mission board, in which the former has tried to show the board that, although the legal reasons may be poor, the board is morally bound to preserve the original objects of the introduction of deer into Alaska, namely, the distribution among the natives. The final disposition of this matter depends on the outcome of litigation at present under way, in connection with a later and similar violation of the Norwegian Evangelical Lutheran Church at Teller, which, in 1916, sold about 300 deer to Lomen & Co. The loan to this mission is covered by written

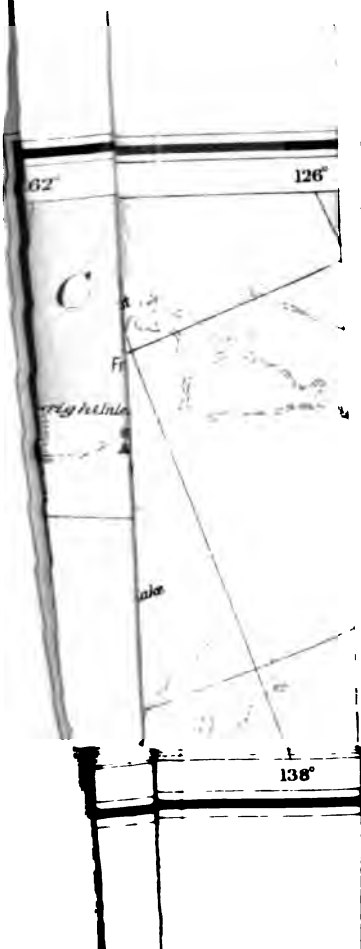
contract, which it is alleged has been deliberately broken by the mission in its attempt to transfer the ownership of female deer to other than natives. The matter is now in the hands of the Department of Justice and its final outcome will be important, since it will affect the ownership of all deer now held by missionary organizations in Alaska.

Four reindeer fairs were held during January and February, at Akiak on the Seward Peninsula, Shatolik in the Norton Sound region, Igloo on Seward Peninsula, and Noatak in the Kotzebue Sound district. These fairs were largely attended by natives and whites who are interested in the reindeer industry. The usual contests enliven the week's festivities. Lectures were given daily on various phases of the reindeer industry and discussions were held and many controversies arising in connection with the ownership of deer and the personal affairs of herders and apprentices were settled by the native council elected by the delegates to the fairs. These conventions have become permanent annual affairs, and their importance to the natives and the industry can not be rated too highly. The rivalry engendered makes for increased interest and renewed efforts in the various phases of reindeer work. The annual comparison of methods means increased efficiency of herders and apprentices, and the amicable settlement of differences which invariably arise between reindeer men result in harmony and good-fellowship.

The needs of this service may be summarized in an increased appropriation for the purpose of employing two specialists, whose duties will be to introduce methods for the improvement of breeding and scientific handling of the deer; to investigate reindeer diseases and establish means of combating them, and to give special attention to matters pertaining to the improvement of the industry. This enterprise has assumed proportions that make it imperative that it be handled in a scientific manner. The present appropriation of \$5,000 is, and the past appropriations have been only large enough for the work of distributing the deer among the natives. Because of a lack of funds this distribution has necessarily been limited and very gradual. The time has now arrived when this industry must be handled with due respect to its size and importance. That Federal appropriations invested in this enterprise bring a magnificent return has already been proved. Congress should, therefore, not hesitate in providing additional means for continued improvement and scientific management of this industry.







~~\_\_\_\_\_ has been \_\_\_\_\_ by the mission in its \_\_\_\_\_~~

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 6

THE CURRICULUM OF THE  
WOMAN'S COLLEGE

BY

MABEL LOUISE ROBINSON



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington.*

SIR: Within the last 25 years the curricula of colleges of arts and sciences have undergone large transformations. A revolution has been wrought in education theory in the same period. The social philosophy of the United States has also been profoundly modified. In a very general way the changes in college curricula have followed these movements; but so rapid have been the developments, both of educational theory and of social philosophy, that higher institutions have as yet been unable to adjust themselves perfectly to the new demands made upon them. There is disagreement among college officers as to the present aim of the college of arts and sciences. There is consequently disagreement as to the principles which should govern the framing of collegiate curricula. This is plainly to be read in the wide variations of existing curricula.

To aid in clearing up this confusion in the field of higher education there is urgent need of a series of studies which will accurately define the present status of different types of collegiate curricula, which will follow their evolution, and will explain the educational purposes of those who are responsible for them. The Bureau of Education has projected such a series. The first of these studies, entitled "The Curriculum of the Woman's College," has been prepared by Dr. Mabel Louise Robinson. I transmit it herewith and recommend that it be printed as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

THE SECRETARY OF THE INTERIOR.





# THE CURRICULUM OF THE WOMAN'S COLLEGE.

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## I.—THE DEVELOPMENT OF THE CURRICULUM.

The modern college for women, evolving by rapid growth from recent simple beginnings to its present highly complex state, is unquestionably still in the process of development. A glance over the changes already accomplished brings conviction that the present situation is but a stage in the life history of a virile institution. That present condition is explicable only by a knowledge of its beginnings. The conception by the founder, the inheritance of his ideals, the impress of early traditions, and the effect of the immediate environment have served inevitably to produce variation. One woman's college differs from another in the courses which it offers its students, in the emphasis which it places upon values, in characteristics academic and social, because of certain elements which brought it into existence and certain factors which have been at work on it ever since. That the variation is on the whole comparatively slight points toward an integrity of purpose highly creditable to the protagonists of education for women.

A study of the modern curriculum should, then, receive illumination by a knowledge of the early curriculum, its reason for being, and the modifications and adaptations which have attended its growth during its struggle for existence. If history has one function, it is to interpret the present by the past. If the present is to become significant as a signpost to the future, such an interpretation is essential.

The colleges upon whose curricula the following study is based were chosen as fair samples of the varieties of modern colleges for the education of women: Vassar College, "the oldest of the well-equipped and amply endowed colleges for women in the United States,"<sup>1</sup> and Wellesley College, closely paralleling it in age and rapidity of development; Radcliffe College, a pioneer in establishing a college wherein women, without coeducation, could receive instruction from a university for men, and Barnard College with a like affiliation with a men's university; Mount Holyoke, the most important college which developed from seminary beginnings.

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<sup>1</sup> Cyclopedia of Education. Edited by Paul Monroe, p. 706.

## VASSAR COLLEGE.

When Matthew Vassar founded Vassar College in 1865, he felt himself able to cope with most of the obstacles and difficulties connected with such an undertaking, with the exception of the curriculum. "For methods of procedure he relied upon others, especially upon the board of gentlemen whom he had selected to be his counsellors and the ultimate depositories of the trust." "In relation to matters literary and professional," said he, in one of his early addresses to the board, "I can not claim any knowledge, and I decline all responsibility. I shall leave such questions to your superior wisdom."<sup>1</sup>

For years he had been interested in the education of woman, his attention, as he maintained, having been especially directed to it by his niece, Lydia Booth, who conducted a seminary for young ladies in Poughkeepsie.<sup>2</sup> Her influence was, in reality, probably very slight.<sup>3</sup> From Milo P. Jewett, the first president, came not only the scheme of founding a college for women, but most of the ideas incorporated in its development.<sup>4</sup> That Mr. Vassar gave no more credit to Dr. Jewett is due to the unfortunate misunderstanding which later separated the two men.<sup>5</sup> It is probable that Dr. Jewett's influence colors the general views of a curriculum which Mr. Vassar turned over to his trustees at their first meeting, February 26, 1861. The founder outlines his conception of a curriculum in the following statement:

I wish that the Course of Study should embrace, at least, the following particulars: The English Language and its Literature; other Modern Languages; the Ancient Classics, so far as may be demanded by the spirit of the times; the Mathematics, to such an extent as may be deemed advisable; all the branches of Natural Science, with full apparatus, cabinets, collections, and conservatories for visible illustration; Physiology, and Hygiene, with practical ref-

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<sup>1</sup> Vassar College, its Foundation, Aims, Resources, and Course of Study. By John Raymond, President of College, May, 1878.

<sup>2</sup> "It is the truth to say that my great interest on the subject of female education was awakened not less than 20 years ago by an intimate female friend and relative, now deceased, who conducted a seminary of long standing and character in this city."—Communications to the board of trustees of Vassar College. By its founder, Feb. 23, 1864.

<sup>3</sup> "Miss Booth had died and Mr. Vassar's will had been made without any reference to the educational project. Then in 1855 Dr. Jewett appears upon the scene."—James Monroe Taylor: Before Vassar Opened, p. 88.

<sup>4</sup> "Milo P. Jewett deserves the credit of originating in Mr. Vassar's mind the impulse and conviction which resulted in Vassar College. He not only nurtured the seed—he planted it. He wrote out the descriptions of what a college should be for Mr. Vassar's quiet reading, met his shrewd objections, encouraged his liberal views of women's powers and opportunities, led him to make his will founding the college, then encouraged and vivified Mr. Vassar's earlier purpose to realize his aims in his lifetime, sketched plans with him of buildings, grounds, equipment, curriculum, urged him to form his board of trustees, and then, a culminating stroke, induced him to place the funds in its hands."—Ibid., p. 198.

<sup>5</sup> "When Jewett's influence had waned and the feeling against him was taking shape, it was natural for Mr. Vassar to lose sight of his early indebtedness to him and to look back to his earlier associations with his niece." Ibid., p. 190.

erence to the laws of the health of the sex; intellectual Philosophy; the elements of Political Economy; some knowledge of the Federal and State Constitutions and Laws; Moral Science, particularly as bearing on the filial, conjugal, and parental relations; Aesthetics, as treating of the beautiful in Nature and Art, and to be illustrated by an extensive Gallery of Art; Domestic Economy, practically taught, so far as is possible, in order to prepare the graduates readily to become skillful housekeepers; last, and most important of all, the daily systematic Reading and Study of the Holy Scriptures, as the only and all-sufficient Rule of Christian faith and practice.<sup>1</sup>

Convinced then of the inadequacy of the prevailing female education and of the desirability of offering women the same advantages as men, and realizing himself unequipped to deal with the formation of a detailed curriculum, Matthew Vassar left his better qualified trustees free to devise a course which should fulfill the requirement of a liberal education for women. One stipulation only he made, "that the educational standard should be high, \* \* \* higher than that usually recognized in schools for young women. The attempt you are to aid me in making," he said, "fails wholly of its point if it be not in advance, and a decided advance. I wish to give one sex all the advantages too long monopolized by the other."<sup>2</sup>

When the trustees of Vassar College took up their task of creating its curriculum, a number of sources were already available in the United States from which they could have found suggestions and the results of experience. Before 1830, Catherine Beecher and Emma Willard had established schools for girls, the latter offering "collegiate education." Mary Lyon had opened Mount Holyoke Seminary in 1837. Oberlin College, since 1833, and Antioch since 1853, had been coeducational. Elmira College, though its development was checked by the Civil War, received its charter as a woman's college 10 years before Vassar opened.<sup>3</sup>

From any or from all these sources the trustees may have sought and obtained aid. To make definite statement of any such influence on the curriculum of Vassar is, however, impossible, since no record of any particular investigation appears in their reports.

In 1861, Milo P. Jewett, who was a graduate of Dartmouth and of Andover, and had conducted for years the Judson Female Insti-

<sup>1</sup> Proceedings of the trustees of Vassar College, 1861, p. 15.

<sup>2</sup> Vassar College, Its Foundations, Aims, Resources, and Course of Study. By John Raymond, president of college, 1873.

<sup>3</sup> Wesleyan Female College, Macon, Ga., at first called Georgia Female College, claims to be "the oldest regularly chartered institution for conferring degrees upon women in America if not in the entire world."

"Dr. Lillian Johnson said in 1908 that there were 55 colleges in the South before Vassar, though no word regarding degrees excepting the institution at Macon. The need of qualifying this has been pointed out, and the survey of the whole field must leave on our minds the conviction that there was very little collegiate education of women in the South before the war, judged by the standards of the better colleges of that day."

"There was effort, occasional large vision, widespread interest in a general seminary education, but seldom high standards and the public opinion that would sustain them."—James Monroe Taylor: Before Vassar Opened, p. 17.

tute in Alabama, was chosen president of Vassar. Dr. Jewett spent a year studying the schools and colleges of the United States and devising plans for a course of study. At the end of that time, February 25, 1862, we find in the minutes of the meeting of the trustees the following:

Whereas the president of the college has asked leave of absence for the purpose of studying the systems of female education prevailing in the most enlightened countries of Europe, and with the view of otherwise advancing the interests of the college: Therefore

*Resolved*, That the request of the president be granted.

*Resolved, further*, That the president be requested, during his visit to Europe, to prepare a general and statistical report on the systems of female instruction prevailing abroad, comparing them with those adopted here, and suggesting to the board for their adoption such results as seem to him worthy of their attention, to guide them in their preparation of a course of instruction.<sup>1</sup>

Dr. Jewett embarked on his enterprise more at the instigation of the founder than because he expected to gain much enlightenment from Europe,<sup>2</sup> but his report on his return shows that he did not go unaware of the conditions in the United States.

Before I left home, I took 20 catalogues of prominent female seminaries in this State and New England, and had them bound in a handsome octavo volume, and lettered "Female Seminaries, U. S. A." Obtaining the requisite official documents from the commissioners at Albany, I forwarded the volume to the United States commissioner for the exhibition. It was placed with other books in the United States department, as a valuable contribution on the subject of female education in this country. When the exhibition closed, I presented it to the library of the educational department of the Kensington Museum. \* \* \* In stating the results of my observation on the education of young ladies abroad, it is an obvious reflection that there is but a remote resemblance between European and American systems.<sup>3</sup>

Upon his return to the United States he set to work to prepare the curriculum for the new college, doing most of the work himself, as he says the distinguished gentlemen of his committee were too closely absorbed in their own business to assist him "except by their invaluable suggestions and counsels."<sup>4</sup>

The plan which Dr. Jewett finally presented was a university scheme which, though radically different from the general plan of the northern college, rather closely followed that of the University of Virginia, as well as the practice in other southern colleges and even seminaries.<sup>4</sup> Perhaps, because of the bitter feeling between

<sup>1</sup> The President's Visit to Europe.

<sup>2</sup> Taylor, James Monroe: Before Vassar Opened.

<sup>3</sup> The President's Visit to Europe. 1863.

<sup>4</sup> "There would be a series of schools; thus of languages, of mathematics, history, and political economy, etc., and elections among them. Teaching would be without textbooks and the examinations would be written, and the completion of a definite number of schools would entitle the student to a diploma and to the degree of the college, M. A. (as at the University of Virginia)."—James Monroe Taylor: Before Vassar Opened.

the North and South which made him wary about appreciation of southern institutions, perhaps because he wished to please the founder by showing the European trip of some use, Dr. Jewett attributed his university system to Europe. The plan was never tried, however, because as a result of the pernicious influence of Charles A. Raymond, Dr. Jewett resigned in 1864. He was succeeded by John Howard Raymond, a member of the board of trustees and a scholarly, experienced teacher.

The preparation of the new curriculum resolved itself into the following points of departure: (1) The necessity of a complete domestic system functioning like that of a well-ordered family; (2) a liberal course of study strictly collegiate; (3) the entire plan in no way a servile copy of existing models;<sup>1</sup> (4) an arrangement avowedly tentative, ready for modification according to public demand or private experience. It was published as a prospectus in 1865.

The general scheme of education was formulated under the following heads:

Physical education was "placed first, not as first in intrinsic importance, but as fundamental to all the rest." It was provided by sanitary regulations, by regular instruction in physiology and hygiene, by a special school of physical training, and by as much outdoor study as possible—on the whole a complete and modern plan.

The intellectual or liberal education offered a regular course of study covering four years. The prospectus aimed to make the course similar to that of men's colleges, with sufficient allowance for difference in sex. It also attempted, unlike ladies' seminaries, to limit the work offered to an amount which could actually be accomplished, and it explained that the courses required of all were those of universal importance, especially for purposes of discipline.

A regular four years' college course was offered. The trustees proposed to submit to a fair trial the question whether the young ladies would be willing to spend this length of time in study after reaching their sixteenth year; i. e., whether they really wanted a liberal education. The prospectus stated distinctly that in the selection of the studies and the extent to which they are actually carried the ordinary college curriculum would furnish a general guide, the intellectual faculties of men and women being essentially similar.

It is interesting to note in the curricula of the early years of colleges for women the provision and allowance made for women who, because of deficiencies of early education, mature years, or peculiar needs, wished to enter as special students. Little by little, as regular students crowded the college, the welcome was withdrawn from the

<sup>1</sup> Vassar College, Its Foundation, Aims, Resources, and Course of Study, pp. 18-20.

specials, but meantime many women, especially teachers, were benefited.

The curriculum presented in the prospectus offered work in the following departments: English language, rhetoric, and belles-lettres; languages, mathematics, natural philosophy, and chemistry; astronomy; natural history; hygiene, history, and political economy; philosophy; art. The content of the work was practically the same that was incorporated into the more definitely formulated plan of two years later.

The next head elaborated in the general scheme of education was moral and religious education. This was to be subject to the parent and free from sectarianism. The organized means were the president's instruction in moral philosophy and evidences of Christianity, by daily chapel service, Sunday church attendance, Bible classes, prayer meetings, and missionary and charitable associations.

Domestic education was to be conducted by a theoretical course in domestic economy practically illustrated by the workings of the college, and by regular hours of sewing under competent teachers.

Social education was to be encouraged by: (1) Reading and kindred arts, (2) conservation, (3) music, (4) arts of design, (5) composition, and (6) soirées, receptions, entertainments, etc.

Lastly, professional education was provided for by courses in teaching, in telegraphing—"a particularly feminine employment"—phonographic reporting, and bookkeeping.

Here was a plan which offered instruction in all collegiate branches, but prescribed no uniform arrangement of them. The entering students presented such inadequate preparation that complete elasticity in the curriculum was essential. Time was necessary to evolve a system.

The catalogue of 1867-68 exhibits a plan in which two courses, the classical and the scientific, are outlined. The work is prescribed for the first two years, but in the junior and senior years three electives are permitted. With open-minded tolerance the catalogue points out that "various opinions are held as to the comparative value and dignity of these two methods," and that it offers the opportunity of a fair trial to both. The aim of the classical course is "subjective culture and discipline," that of the scientific course "outward practical utility." A glance down the two parallel columns following shows the studies in which this differentiation of goal is based:

## FRESHMAN.

Classical.	Scientific.
Latin.....	Same.
Mathematics.....	Same.
English.....	Same.
Greek.....	French.
	Botany, 2d semester.

## SOPHOMORE.

Classical.	Scientific.
English.....	Same.
Mathematics, 1st semester.....	Same.
Greek.....	French.
Latin, 2d semester.....	German, 2d semester.
Natural history, 2d semester.....	Geology and mineralogy, 2d semester.
	Zoology, 2d semester.

## JUNIOR.

English.....	Same.
Natural philosophy.....	Same.
French.....	Same.
Latin, 1st semester.....	
Greek, 2d semester.....	German.
Logic and political economy.....	Astronomy.
Mathematics, 2d semester.....	Physical geography, 1st semester.

## SENIOR.

*First Semester.*

Intellectual philosophy.....	Same.
Anatomy.....	Same.
Chemistry.....	Same.
Astronomy.....	Same.
German.....	Same.
Italian.....	Same.
Latin.....	Logic and political economy.

*Second Semester.*

Physiology.....	Same.
Moral philosophy.....	Same.
Astronomy.....	Same.
Criticism.....	Same.
German.....	Same.
Italian.....	Same.
Greek.....	French.

The following year, 1868-69, the division into classical and scientific courses was not made until the sophomore year. All freshmen were required to lay for themselves "a good disciplinary foundation in a respectable amount of Latin and mathematics, and a fair knowledge of French will have been acquired by all the regular students alike." These foundation studies were Latin, French, mathematics, English, art, and one semester of physiology and hygiene.

No change of importance occurred the following year, but in the catalogue of 1870-71 the division into classical and scientific courses was given up entirely. President Raymond's report for the National Centennial of 1876 gave as the reason that "very few students were

prepared at the outset to make an election which involved so much, and many desired combinations of studies differing in some respects from both the courses laid down, combinations often equally good, and in some cases better adapted to the real want of the student."

This same catalogue prescribed the freshmen studies only and permitted three electives in the sophomore, junior, and senior years. In 1872-73 the prescribed work was extended through the first semester of the sophomore year. Such shifting of the amount of prescribed work from two years to one year and then to 1½ years; of prescribed studies like natural history, i. e., "Gray's Botany with laboratory practice and excursions," which appeared in 1870 and then disappeared until 1874, all point toward the difficulties connected with the effort to shape a satisfactory curriculum.

The curriculum as it appeared in the catalogue of 1874-75 was adhered to for a long enough period to earn the title "established." The work was prescribed until the middle of the sophomore year. From the middle of that year the course consisted of electives, three full studies meeting five hours a week, or an equivalent in half studies. The following courses were offered:

#### FRESHMAN YEAR.

Latin—both semesters.  
 French, German, or Greek—both semesters.  
 English composition—both semesters  
 Mathematics—first semester.  
 Physiology and hygiene—first semester.  
 Natural history—second semester.  
 Lectures on oriental history—second semester.

#### SOPHOMORE YEAR.

Latin—both semesters.  
 Mathematics—both semesters.  
 Composition—both semesters.

##### *First Semester.*

English literature.  
 Lectures on Greek and Roman history.

##### *Second Semester.*

Greek, German, French.  
 Natural history.  
 Chemistry.  
 Lectures on popular astronomy.

#### JUNIOR YEAR.

Greek—both semesters.  
 Astronomy—both semesters.  
 Composition—both semesters.

##### *First Semester.*

Rhetoric.  
 Natural history.  
 Anatomy and physiology.

##### *Second Semester.*

Latin.  
 Logic.  
 Physics.  
 Lectures on mediæval history.



## SENIOR YEAR.

Greek—both semesters.

Astronomy—both semesters.

Composition—both semesters.

*First Semester.*

Mental philosophy.

Physics.

History of art.

*Second Semester.*

Moral philosophy.

Latin, German, French.

English literature.

Geology.

Chemistry.

History.

The established curriculum of 1874-75 showed very little alteration during the next 12 years. In 1881 laboratory work was introduced into the sophomore natural science work, which had been separated into botany and zoology. Two years later English literature received an addition by the introduction of a course in Anglo-Saxon. From then literature developed rapidly, adding courses and instructors until it reached the relative prominence of English literature in the usual college curriculum.

In 1886 President James Monroe Taylor was inaugurated, and the next year brought the "Revised Curriculum." Severe criticism, public and private, and a formal protest in 1882 from the alumnae in Boston had stimulated investigation and modification. Attendance was falling off and Vassar was not holding her own with other colleges for women. Whether this loss was due to conservatism within the college or to the attraction of the other colleges, the alumnae did not know, but they were sure the condition could be relieved.

A general demand for history resulted in five semester courses being offered in 1886-87. President Taylor tells us, however, that no professor was provided, and that he took one class. The catalogue of 1887-88 announced the new professor and the same five courses. From then on history became increasingly important in the curriculum. Political economy appeared in the catalogue for the first time in 1886 as a subject apart from logic and remained under this title until 1890, when it expanded into economics, although President Taylor says that the chair was not established until 1893.

From 1886 the degree of Ph. D. was offered by the college, but in 1894 it was withdrawn, and the college definitely took the stand for undergraduate work only.

The adverse criticism concerning the preparatory department, especially during 1886, resulted, in 1888, in the closing of this very thriving part of Vassar, and in greater freedom to follow the higher academic standards with which preparatory work had always interfered.

In 1890 biology, which had been forging forward all over the country, was recognized by a chair distinct from natural history.

Five years later the department offered 8 semester courses, and 1900 the number had increased to 11.

Up to 1892 music and art had been taught in schools separate from the college courses and not counting in the hours required for a degree. At that time they came into the regular curriculum as at Wellesley and Smith. In the same year the choice of senior studies was increased by the introduction of Sanskrit, applied chemistry, and social science, which offered investigatory work. Chemistry, at this time, became a distinct professorship from physics. The establishment of a separate professorship, it is perhaps unnecessary to note, marks usually the beginning of rapid independent growth of the subject separated or introduced.

The development of the formal study of education began in 1898-99 with a course of one semester in educational psychology, in the department of philosophy. The next year the department offered a semester course in history of education, a semester course in educational psychology, and a series of lectures by different members of the faculty on methods of teaching their respective subjects in secondary schools. To these lectures teachers and others in Poughkeepsie were invited. In 1903-4 the lectures on methods were dropped. In 1905-6 educational psychology was changed to genetic psychology, but still was called a course in education. The next year it was no longer called education. In 1911-12 courses in philosophy and psychology were announced as separate departments. The department of philosophy offered a one semester course in history of education, and the department of psychology still offered the course in genetic psychology. Applied psychology, a part of which dealt with education, was added the next year. In 1915-16 the philosophy department offered a semester course in the history of education, and a semester course in principles of education. The psychology department continued to offer genetic psychology and applied psychology. In view of the fact that the policy of Vassar, as expressed by her president, is opposed to any special training for teachers, the development and present state of the education courses at Vassar is of interest.

From 1892 to 1899 Bible study was conducted by outside lecturers who spoke on various Biblical subjects to the students who were interested to attend. The catalogue of 1899-1900 offered to juniors and seniors two regular semester courses. The next year this number was increased to three, and in 1902-3, when the chair of Biblical literature was established, six semester courses were offered in Bible, all electives.

In the language group the classics had been subdivided into Latin and Greek; French and German were made professorships, and in 1902 Spanish was introduced.

In the fall of 1903 a curriculum was put into practice which has lasted in its general premises until now.<sup>1</sup>

The modern curriculum will be used as the basis for comparison in the section devoted to that purpose, and consideration of further changes will be left for that section.

#### CHRONOLOGY.

1874-75—"Established" curriculum.

1881—Zoology and botany laboratory in second semester sophomore year.

1883—English literature—Anglo-Saxon—(literature develops rapidly).

1886—Taylor inaugurated.

1886-87—Revised curriculum.

1886—Literature for freshmen.

1886-87—Junior and senior history offered. No professor.

1887-88—Five semester courses in history. Lucy Salmon, professor.

1886—First political economy apart from logic.

1881—Philosophy, senior year.

1886-1894—Ph. D. offered.

1888—Preparatory department closed. Disappearance of special students.

1890—Expansion of biology.

1890—Expansion of political economy into economics.

1892-93—Music and art come into regular curriculum.

1892—First Sanskrit, senior year.

Applied chemistry, senior year. Professorship distinct from physics.

Social science, senior year.

1895—Physics or chemistry required in sophomore year, one semester.

1898-99—Educational psychology, one semester.

1899-1900—Courses in education.

History of education, one semester.

Educational psychology, one semester.

Methods of teaching in secondary schools.

1906-7—Education drops to one semester senior course.

1892-1899—Bible study by outside lecturers.

1899-1900—Bible, two semester courses open to juniors and seniors.

1900-1901—Bible, three semester courses open to juniors and seniors.

1902-3—Bible, six semester courses open to juniors and seniors.

Chair of Biblical literature established.

1902-3—Spanish introduced.

#### WELLESLEY.

The long process of trial and error by which Vassar had sifted out its curriculum shortened that period for every other woman's college. The pioneer not only works for himself, but for all who follow him. No other college had the same problem to face that Vassar faced in the early sixties. Each one had its own peculiar difficulties to overcome, but some of the problems of the early existence of a college for women had been solved once and for all by Vassar.

<sup>1</sup> Taylor and Haight. Vassar, p. 161.

In September, 1875, 10 years after the first collegiate year of Vassar College, Wellesley College was opened to students. If the ideals of the founder of a college tend to influence the history of its development, Wellesley, in spite of the fact that it benefited from the 10 years' experience of Vassar, will show a difference in emphasis of values, an individuality more marked perhaps in its early years than later when the pressure of modern demands stamps education with large common tendencies.

Matthew Vassar, the self-made business man, founded Vassar College first to make a useful disposition of his large property, and second because, after considering various plans, "the establishment and endowment of a college for the education of young women is a work which will satisfy my highest aspirations and will be, under God, a rich blessing to this city and State, to our country, and to the world."<sup>1</sup> To quote from Taylor and Haight: "It is amazing to see how, under the inspiration of this great purpose, large ideas shaped themselves in the founder's mind, and a certain breadth of tolerance characterized his formal utterances. In the small printed pamphlet, 'Communications to the Board of Trustees of Vassar College by its Founder,' the man's straightforward business sense, his keen interest in the advancement of women, and his desire to make the college 'the best' possible, all appear."<sup>2</sup>

Except to give his general views as to the character and aims of the college (cf. page 2 of dissertation), he kept his hands off the curriculum; yet because of his very recognition of his inability to deal with it, the curriculum was influenced and molded in a different shape.

Henry Durant, the founder of Wellesley College, was a man who combined the professional training of a lawyer with the ardent zeal of a religious convert. Believing the law and the Gospel irreconcilable, he had laid aside the profession at his conversion, but the trained lawyer's brain always asserted itself, and no detail was too small for its personal supervision.

He brought to his task a large inexperience of the genus girl, a despotic habit of mind, and a temperamental tendency to play Providence. Theoretically he wished to give the teachers and students of Wellesley an opportunity to show what women, with the same educational facilities as their brothers and a free hand in directing their own academic life, could accomplish for civilization. Practically, they had to do as he said as long as he lived. The records in diaries, letters, and reminiscences which have come down to us from the early days, are full of Mr. Durant's commands and coercions.<sup>3</sup>

Both Vassar College, which Mr. and Mrs. Durant studied while they were making their plans,<sup>4</sup> and Mount Holyoke Seminary, of

<sup>1</sup> Communications to the board of trustees of Vassar College, Feb. 26, 1861.

<sup>2</sup> Taylor and Haight. Vassar.

<sup>3</sup> Converse: The Story of Wellesley, pp. 37-38.

<sup>4</sup> Ibid., p. 28.

which Mr. Durant was elected a trustee in 1867,<sup>1</sup> served to guide the founder of Wellesley College. Of his aim he himself writes in a letter accompanying his will in 1867:

The great object we both have in view is the appropriation and consecration of our country place and other property to the service of the Lord Jesus Christ, by erecting a seminary on the plan (modified by circumstances) of South Hadley, and by having an orphan asylum, not only for orphans, but for those who are more forlorn than orphans in having wicked parents. Did our property suffice, I would prefer both, as the care (Christian and charitable) of the children would be blessed work for the pupils of the seminary.<sup>2</sup>

The first catalogue to make a formal statement of the aims of the college is the Calendar for 1877-78. Herein is stated under "Course of Instruction in Collegiate Department":

The general design of the college is to provide for the radical change in the education of woman, which is made necessary by the great national demand for their higher education. \* \* \* The leading object in Wellesley College is to educate learned and useful teachers, and this is kept in view throughout all the courses of study and in all the methods of instruction.<sup>3</sup>

Again, under "Applications" comes this further explanation:

Wellesley College has been established for the purpose of giving to young women who seek collegiate education, opportunities fully equivalent to those usually provided for young men. It is designed to meet in the most comprehensive manner the great desire for the higher education of women, which is at this day so remarkable a feature in our national life. \* \* \*

Its object and aims must not be misunderstood. It is not intended to be like an ordinary seminary or finishing school for girls. It is a college, arranged for collegiate methods or instruction, and for courses of very difficult study, such as are pursued in none but the best colleges. It is intended for those only who have vigorous health, more than ordinary ability, and the purpose to give themselves faithfully to the pursuit of knowledge, and to discipline and develop their minds by arduous study.

One prominent object in organizing the college has been to give peculiar advantages to those who intend to prepare themselves to be teachers. \* \* \* The college is not limited to this class of applicants. Others who have not this intention, but desire an equally advanced education will be admitted.<sup>4</sup>

The course of study offered in the first catalogue of Wellesley was by no means as tentative a plan as that with which Vassar was obliged to experiment. The college curriculum for a woman's college was no longer a new problem. Wellesley's first plan, which held for three years without radical change, was to offer a general college course for which the degree B. A. was granted *summa cum laude* for special distinction in scholarship. In addition, the catalogue offered courses for honors "established to encourage preparation in advance of the requirements for admission, to meet the wishes of those desiring to

<sup>1</sup> Converse: The Story of Wellesley, p. 27.

<sup>2</sup> *Ibid.*, p. 26.

<sup>3</sup> Calendar for 1877-78, p. 28.

<sup>4</sup> *Ibid.*, p. 47.

take special studies instead of the general course, and to enable them to pursue these studies to an extent, not possible in that course."<sup>1</sup> The honor courses were offered in classics, mathematics, modern languages, and science, and consisted of the work of the general courses with advanced study in the subject characterizing the honor course.

The general college course was listed as follows:<sup>2</sup>

*Freshman Year.*

Latin, mathematics, history, essay writing, elocution, modern English.

Electives: One elective study required—

Greek, German, French.

*Sophomore Year.*

Latin, elective after first semester; mathematics, general chemistry, mediæval history, essay writing, elocution, history of literature.

Electives: One elective required—

Greek, German, French, botany.

*Junior Year.*

Physics, modern history, essay writing, elocution, history of art, rhetoric, literary criticism.

Electives: Two elective studies required—

Latin, Greek, mathematics (mathematical astronomy), German, French, chemistry, mineralogy, botany, zoology.

*Senior Year.*

Mental and moral philosophy, history of philosophy, modern history, essay writing, Anglo-Saxon and early English literature:

Electives: Two elective studies required—

Latin, Greek, mathematics (astronomy), German, French, analytical chemistry, botany, zoology, geology, physics.

A foot note added, "The systematic study of the Scriptures will be continued throughout the course."

Instruction in music, drawing, and painting was offered, and the domestic work which was a feature of Wellesley until 1896, was emphasized.

In 1878-79, the studies were systematized into seven different courses: The general college course, courses for honors in classics, mathematics, science, and languages, the scientific course, and the musical course.

The general course differed very little from the previous year except in requiring three instead of two electives in the junior and senior years.

<sup>1</sup> Circular for 1876, p. 6.

<sup>2</sup> *Ibid.*

The aim of the scientific course was given as follows: "The present course is arranged to meet the wants of teachers; to open the way for future special study; and also to provide satisfactory preparation for those who intend to become physicians." The studies pursued in the scientific course were:

*Freshman year.*

General course studies:

Grecian history, essay writing, elocution, history of literature.

Scientific studies:

Mathematics, French and German, chemistry.

*Sophomore year.*

General course studies:

Roman history, English literature, essay writing.

Scientific:

Mathematics, German, chemistry, botany.

*Junior year.*

General course studies:

Mediaeval history, literature, essay writing.

Scientific:

Mathematics, physics, mineralogy.

Electives: Botany, zoology, astronomy, chemistry.

*Senior year.*

General course studies:

Mental and moral philosophy, modern history.

Literature, essay writing.

Scientific:

Mathematics, mathematical astronomy.

Electives: Chemistry, physics, geology, astronomy, botany, biology.

A five-year musical course commenced with the collegiate year of 1878-79, which enabled those who took it to graduate in any of the regular college courses, and at the same time to acquire a scientific musical education. Music took the place of one regular study and was allowed the same time for lesson and practice that would have been required for preparation and recitation. The musical department grew rapidly and was reorganized and enlarged in 1880, when Music Hall was built by the founders.

Avowedly intended in the beginning for the training of teachers, Wellesley early took steps to provide especially for them. In September, 1878, the teachers' department was organized for women who were teachers already, but desired "peculiar facilities for advanced studies."<sup>1</sup> A special building, Stone Hall, was provided by Mrs. Valeria G. Stone; teachers were given the utmost consideration; and they flocked to Wellesley in large numbers. They were allowed

<sup>1</sup> Calendar for 1878-79.

to enter without examination, and under the title of "Course of Study in Teachers' Department," we are told that "They will be allowed to take the courses of study which they may desire in any of the college classes and such as no other students are allowed to take."<sup>1</sup>

At the same time the Teachers' Registry, which flourishes to this day, was opened to procure positions for the students. The fate of the teacher specials seems to have been much the same as in Vassar.

Says Miss Converse:

At first there were a good many of them, and even as late as 1880 and 1890 there were a few still in evidence; but gradually, as the number of regular students increased, and accommodations became more limited, and as opportunities for college training multiplied, these "T. Specs," as they were irreverently dubbed by undergraduates, disappeared, and Stone Hall has for many years been filled with students in regular standing.<sup>2</sup>

The calendar for 1879-80 announced the discontinuance of the academic or preparatory department. Like Vassar, Wellesley had felt the inhibiting effect of preparatory students upon her collegiate progress, and like Vassar, as soon as preparatory schools had been established which could serve as feeders, she closed the department. That she was able to do this eight years earlier than Vassar points probably to thriving finances and perhaps to a little better business policy in establishing schools. The names of several are recommended by the college, and one which was established by a former Wellesley teacher has its circular appended to the catalogue.

The report of the Teachers' Registry for 1891 notes cannily that out of 166 young women who were seeking positions at the beginning of the year, and are now placed, 73 have found their work in schools preparatory to the college. This fact alone demonstrates the usefulness of the registry.<sup>3</sup>

The trustees decided in 1879 to admit students on certificate. Two years before Vassar had admitted on certification, and colleges in general were adopting that method.

With the resignation of Wellesley's first president, Miss Howard, and the appointment of Alice Freeman in 1881, the curriculum was reorganized by simplifying and standardizing the courses of study. The courses were called classical and scientific, although courses for honors might be elected by students of superior scholarship. In 1870 Vassar after a three years' trial had given up the division of courses into classical and scientific, but Wellesley continued it until 1893, when a single course was offered for B. A. and the degree of B. S. was discontinued.

<sup>1</sup> Calendar for 1878-79.

<sup>2</sup> Converse: *The Story of Wellesley*, p. 55.

<sup>3</sup> *The President's Report*, 1892, p. 17.



It would be neither fair nor significant to compare the classical-scientific arrangement of the curricula of the two colleges, Wellesley and Vassar, since in the early years when it was offered at Vassar the curriculum of all colleges was narrower and more restricted as to electives. The two tables, nevertheless, show much in common, except that Vassar made Latin or Greek a fundamental requirement of all students, as she does now. The parallel columns following show the subjects which the classical and scientific courses of Wellesley had, in common and the subjects by which they were differentiated.

## FRESHMAN.

Classical.	Scientific.
Mathematics.	Mathematics.
History.	History.
English literature.	English literature.
Essay writing.	Essay writing.
Drawing.	Drawing.
French (elective).	French (required).
German.	German.
Latin.	Chemistry.
Greek.	

## SOPHOMORE.

Mathematics (elective).	Mathematics (required).
History.	History.
English literature.	English history.
Essay writing.	Essay writing.
French.	French.
German.	German.
Latin.	Mineralogy, crystallography, lithology, geology.
Greek.	Qualitative analysis (elective).
	Botany (elective).

## JUNIOR.

Mathematics (elective).	Mathematics (elective).
History.	History.
English literature.	English literature
Essay writing.	Essay writing.
French (elective).	French (elective).
German.	German.
Physics.	Physics.
Logic.	Logic.
Botany (elective).	Botany (elective).
Latin.	Advanced chemistry.
Greek.	Geology.
Mineralogy, lithology, and geology (elective).	Astronomy.
Qualitative analysis (elective).	

## SENIOR.

Classical.	Scientific.
Mathematics (elective).	Mathematics (elective).
History.	History.
English literature.	English literature.
Essay writing.	Essay writing.
French (elective).	French (elective).
German (elective).	German (elective).
Mental and moral philosophy.	Mental and moral philosophy.
Botany (elective).	Botany required unless previously studied.
Latin (elective).	Mathematical astronomy (elective).
Greek (elective).	
Astronomy (elective).	
Geology (elective).	
Chemistry (elective).	
Physics (elective).	
Mineralogy (elective).	
Lithology (elective).	

This arrangement, with the addition of many electives and the reorganization of Bible study, continued for ten years.

Until 1882 Bible study had been conducted in daily classes, but the work had not the dignity of a regular course nor was it subject to examination. In the courses of study for 1883-84 the Bible was made a required subject of all four classes in both classical and scientific divisions. Greater emphasis was placed on Bible study at Wellesley than at Vassar, where it became a regular part of the curriculum only in 1899 and then through courses open to election by juniors and seniors.

The statutes of Wellesley as printed in 1885 stated that:

The College was founded for the glory of God and the service of the Lord Jesus Christ, in and by the education and culture of women.

In order to the attainment of these ends, it is required that every Trustee, Teacher, and Officer, shall be a member of an evangelical church, and that the study of the Holy Scriptures shall be pursued by every student throughout the entire college course under the direction of the Faculty.<sup>1</sup>

Later the religious requirements for teachers were altered, and Bible study was first reduced to three years and then in 1912 amended to extend over the second and third years with opportunities for elective studies in the same during the fourth year. Here as in many other ways the strongly religious character of the founder made itself felt both before and after his death, which occurred in 1881.

Many new electives came into the curriculum in 1883-84. The zoological laboratory was opened and lectures on physiology and hygiene were given for the first time to freshmen, a custom which is

<sup>1</sup> Converse: The Story of Wellesley, p. 122.

still continued, though long since separated from the zoology department. Italian, Spanish, and political science were introduced, all antedating the appearance of these studies in Vassar.

In 1887-88 the following announcement appeared:

A course will be given in 1887-88 on the science and art of teaching, with reference to the theories of Pestalozzi, Diesterweg, and Froebel. Special consideration will be had to such common-school subjects as reading, writing, arithmetic, grammar, animals, and plants. There will also be discussion of the best methods of presenting specific subjects to students of the high-school grade. Lessons given by members of the class will be criticized by classmates and instructor.<sup>1</sup>

This course developed the next year into "pedagogics and didactics theoretical, practical, and historical," and the department continued to grow and to hold a strong place in the curriculum. Eleven years later Vassar gave its first course in educational psychology, following it the next year with regular education courses.

In 1891-92 a department of domestic science was founded. The president's report of the next year said: "The experiment no longer presents the element of doubt which even its most sanguine friends recognized at the outset. A wide range of subjects has been covered, but the greater part of the time has been devoted to sanitation and nutrition, with classroom and laboratory work, special investigation, written essays, and visits of inspection."<sup>2</sup> The report for 1893, however, regretfully stated that the instructor had resigned and that "the women able to conduct a course in domestic science are so few that the vacancy caused by this resignation could not be filled."<sup>3</sup> Though women able to conduct courses in domestic science appeared later, Wellesley never undertook the experiment again.

In May, 1894, the academic council voted "that the council respectfully make known to the trustees that in their opinion, domestic work is a serious hindrance to the progress of the college, and should as soon as possible be done away with."<sup>4</sup> The trustees, finding that the fees for 1896-97 had to be raised, decided that from that date domestic work should no longer be required of any student. "Thus," said the president, "for financial reasons the measure has been adopted, which was originally urged in the interest of academic advancement."<sup>5</sup> And thus disappeared from Wellesley all but purely cultural work.

President Shafer's annual report of 1893 announced the formal adoption of the "new curriculum," which is the basis of the present curriculum, and indicated its important features. The scientific

<sup>1</sup> Calendar, 1887.

<sup>2</sup> President's Rept., 1892, p. 13.

<sup>3</sup> Ibid., 1893, p. 6.

<sup>4</sup> Ibid., 1895, p. 7.

<sup>5</sup> Ibid., 1895, p. 8.

course was discontinued, and a single course leading to the B. A. substituted. The President stated: "We cease to confer the degree of B. S. for a course not essentially scientific under existing conditions, and we offer a course broad and strong containing, as we believe, all the elements educational and disciplinary, which should pertain to a course in the liberal arts."<sup>1</sup>

The new curriculum aimed to offer "the widest election consistent (1) with the completion of certain subjects which we deem essential to all culture; and (2) with the continuous study of one or two subjects for the sake of mental discipline and the breadth of view which belong to advanced attainment."<sup>1</sup>

The subjects which were required as essential to all culture and for mental discipline and breadth of view were as follows:

Bible.....	4 hours.
English composition.....	3 hours.
Physiology and hygiene.....	1 hour.
Mathematics.....	4 hours.
Natural science.....	4 hours.
(If taken later than freshman year, 3 hours.)	
Natural science.....	3 hours.
(Unless presented for admission.)	
Language.....	4 hours.
Philosophy.....	3 hours.
	26 hours.

Two appointments in elocution required throughout sophomore year.

The remaining hours of the 59 required for a degree were elective, but the required arrangement was: (a) Three in each of two subjects, or (b) three or four courses in one subject with three or two courses in one or two tributary subjects.

The following parallel columns show the subjects required at Vassar and at Wellesley at the same time and for the same reasons:

Wellesley, 1893-94.	Vassar, 1893-94. <sup>2</sup>
English composition..... 3 hours.	English..... 6 hours.
Mathematics..... 4 hours.	Mathematics..... 4½ hours.
Language..... 4 hours.	Greek, German, French..... 6½ hours.
Physiology and hygiene..... 1 hour.	Hygiene..... 1 hour.
Philosophy..... 3 hours.	Psychology and ethics..... 3½ hours.
Elocution (2 appointments in sophomore year until 1895).	Elocution..... ½ hour.
Bible..... 4 hours.	
Natural science..... 4-7 hours.	
	30 hours.
26 hours.	

<sup>1</sup> President's Rept. 1893, p. 4.

<sup>2</sup> Vassar Catalogue, 1893, pp. 60, 61, 62.

Except for the difference in the hours required a close similarity in subjects necessary for a course in liberal arts exists in the two colleges. Wellesley makes Bible and natural science essential and it required four less hours of its students.

The next radical innovation at Wellesley was the incorporation in 1908-9 of the Boston Normal School of Gymnastics into the department of hygiene and physical education of Wellesley College. A two-year course for special students was offered by the department and the opportunity of gymnasium privileges for all students of the college. At present, by taking five years for the work, the Wellesley student may obtain the degree B. A. from the college and the certificate from the department.

Further discussion of the Wellesley curriculum will be presented in the chapter on the comparison of the modern curricula.

#### ELECTIVES AT VASSAR AND WELLESLEY.

Since 1823 officers of colleges for men have been discussing and disagreeing about the wisdom of the elective system. In 1825 the University of Virginia opened with a complete elective course. From then until the beginning of President Eliot's administration in 1869, Harvard College vacillated and shifted, its curriculum gradually becoming a little more elastic as the elective system grew in favor. President Eliot in the next 40 years led the movement for the elective system, and Harvard became its leading exponent.

Yale, on the other hand, took the conservative stand against the elective system, and the smaller colleges fell in behind one or the other of the leaders. When Vassar was founded in 1865 the elective system was not systematized enough to deserve the name. Ten years later, when Wellesley formed its curriculum, the elective plan was well formulated and in working order at least at Harvard. It is interesting to note that though Noah Porter, the president of conservative Yale, was chairman of the board of trustees at Wellesley, his connection seems to have had no effect in discouraging Wellesley from offering at least a fair number of electives. The calendar of 1877-78 speaks in no undecided terms of the value of electives:

The leading spirit in Wellesley College is to educate learned and useful teachers, and this is kept in view throughout all the courses of study and in all the methods of instruction. Hence, it is necessary that there should be many different courses of study, as well as opportunities of varying these courses by means of elective studies.

In describing the general college course it goes on to say:

It may be widely varied by the introduction of elective studies, so as to meet the wants of individual students and give them special training and education.

The college, however, believes in limitation to selection and makes it clear that the student "can not be allowed to take elective studies from caprice, or because they are easy"; hence the choice must be subjected to the approval of the faculty.

Vassar's first plan, already mentioned as offered by President Jewett, was elective throughout. "The student selects whichever of these courses or studies her talents, tastes, inclinations, pecuniary circumstances, or objects in life may lead her to prefer." After she had received a specified number of testimonials she was to be graduated from the university. Small wonder a scheme as radical as this was dismissed. With the superficial and inadequate preparation of the girls of that day, a nearly insuperable obstacle was offered to any free elective system. Electives were later offered guardedly, and only when good preparatory schools were established were the college students considered capable of wise choice of studies. Even now Vassar keeps a firm hand on the course of study until the middle of the sophomore year. "The students are presumed by this time to have laid a good disciplinary foundation, and to be able to make an intelligent choice, with reference to their special tastes, aptitudes, and objects in life," always, however, subject to the approval of the faculty.

The subjects required for a degree of B. A. at Vassar have changed but little during the history of the college. The number of hours allotted to the different prescribed studies has shifted somewhat. The language requirements until 1903-4 were Latin and a choice of Greek, German, or French. From then until the present, Greek has been a permitted alternative of Latin, and French of German. The other subjects which have been usually required are English and mathematics.

After the first five years of experimentation, the work prescribed for an A. B. fell into definitely settled lines. In 1872-73 all studies were prescribed to the middle of the sophomore year. Both freshmen and sophomores were required to study Latin, mathematics, English, and a choice of Greek, German, or French. Freshmen heard lectures on hygiene and sophomores lectures on ancient history. In 1874-75 the freshmen were required in addition to take a course in natural history based on Gray's Manual of Botany.

Except for the addition of elocution the subjects required remained practically the same for the next seven years. The content of the work naturally changed in the general development of college standards. Three electives after the middle of the sophomore year were permitted. In 1872 the subjects among which the student was free to choose were of course limited. The classics, modern languages

(French, German, and English), mathematics, natural history, philosophy, astronomy, and chemistry offered not more than one course each during the year. From 1881 to 1886 English composition was required of the juniors.

In 1886 the revised curriculum went into effect. The catalogue states that "experience demonstrated the need of much careful compulsory work as a preparation for free choice," and goes on to prescribe certain studies throughout the first two years. For the first time the catalogue definitely announced the number of hours required for each subject. The list of subjects was practically the same.

## FOR FRESHMEN.

Latin .....	4 hours.	Natural history.....	2 hours.
Greek.....	} 4 hours.	English.....	2 hours.
German.....		Physiology.....	1 semester.
French.....		Drawing.....	1 semester.
Mathematics.....	3 hours.	Elocution.....	1 semester.

## FOR SOPHOMORES.

	First semester.	Second semester. <sup>1</sup>
Latin.....	3 hours.	2 hours.
Greek } .....	} 3 hours.	} 2 hours.
German } .....		
French } .....		
Mathematics.....	3 hours.	
English.....	3 hours.	3 hours.
History.....	3 hours.	

The junior year was entirely free of requirements, and in the senior year only four hours of mental and moral philosophy were required. By that time the number of electives had increased somewhat, permitting the student a wider choice. Sophomores, in addition to the five prescribed studies, had a choice of six electives: Mathematics, natural history, chemistry, history, Latin, and astronomy. The juniors might choose in the first semester from 12 electives, in the second from 14; and the seniors from 13 in the first and from 10 in the second semester. Including the lectures on art open to all classes, 56 electives in semester and year courses were offered in 1886-87.

The requirement of natural history for freshmen was discontinued in 1889-90, and the English requirement was increased to three hours. Except these changes and the dropping of elocution and drawing, the prescribed work remained practically the same until 1895-96, when a radical change was made in sophomore requirements by the substitution of science for the classics. The work was no longer entirely required for the first semester but throughout the entire

<sup>1</sup> Electives to be chosen from Latin, mathematics, natural history, chem'

year three hours each of English history and physics or chemistry were prescribed. For seniors a three-hour course in psychology was required in the second semester and a full year course of three hours in ethics.

In 1903-4 the prescribed work took the shape in which it has remained to the present. The following courses of three hours each were required of all candidates for a degree:

English.....	Freshman year.
Mathematics.....	Freshman year.
Latin or Greek.....	Freshman year.
1 modern language.....	Freshman or sophomore year.
History.....	Freshman or sophomore year.
Physics or chemistry.....	Freshman or sophomore year.
Philosophy or psychology.....	Junior year, 1 semester.
Ethics.....	Senior year, 1 semester.

Except that juniors no longer have a choice between philosophy and psychology, but are limited to philosophy, the requirements for the degree of A. B. remain the same in 1915-16.

The number of electives offered by the college has increased rapidly and steadily with the development of the curriculum, as the following table shows:

1900-1901—182 electives offered in college.
1905-1906—202 electives offered in college.
1910-1911—225 electives offered in college.
1914-1915—244 electives offered in college.

In 1895-96, under the department of philosophy, a subheading of "Courses in Education and Teaching" appeared, offering two courses in pedagogy. Four years later a separate department of education was created, and the number of courses was increased to six. The department has grown steadily until, in 1915-16, it offers 13 courses, 7 of which are seminary courses.

In 1896-97 the department of Slavic languages opened with a course in Russian. The same year mineralogy and petrography were introduced.

In 1898-99 Scandinavian literature appeared under Germanic literature. In 1899-1900 the staff of the college had increased to 108 instructors, who were offering 230 courses and half courses.

A half course in anatomy and physiology was added in 1903, and the next year two half courses in the study of Celtic.

#### ELECTIVES AT VASSAR.

1867—Freshmen and sophomore years prescribed. 3 electives allowed juniors and seniors. Postgraduate year to take up omitted studies.
1870—3 electives allowed sophomores, juniors, and seniors.
1872—3 electives after middle of sophomore year. This scheme maintained to 1886.



1886-87—Freshmen: Lectures on history of art, elective for all classes.

Sophomore: 2d semester. 5 prescribed studies, 6 electives, namely, mathematics, natural history, chemistry, history, Latin, astronomy.  
 Junior: All elective. 1st semester, 12 electives. 2d semester, 14 electives.  
 Senior: All elective except mental and moral philosophy. 1st semester, 13 electives. 2d semester, 10 electives.

Two languages, one of which shall be Latin, must be studied throughout prescribed course. Second language may be Greek, German, or French.

56 electives offered in college in semester and year courses.

1895-96—Freshmen year prescribed.

Sophomore: 1st semester. 3 required, 11 electives. 2d semester, 3 required, 12 electives.

Junior: 1st semester. All elective, 25 electives. 2d semester. Psychology required, 25 electives.

Senior: 1st semester. Psychology required, 31 electives. 2d semester. All electives, 36 electives.

147 electives offered in college.

1900-1901—182 electives offered in college.

1905-1906—202 electives offered in college.

1910-1911—225 electives offered in college.

1914-1915—244 electives offered in college.

1900-1901—Outline of courses by classes.

Freshman year: Latin, 4 hours; German, French or Greek, 4 hours; English, 3 hours; mathematics, 4 hours (1st semester, mathematics, 3 hours). (Hygiene, 1 hour.)

Sophomore year: English, 3 hours; physics or chemistry, 3 hours; history, 3 hours; 5 or 6 hours elective.

Junior year: 1st semester, 14 or 15 hours elective. 2d semester, 11 or 12 hours elective. 3 hours psychology required.

Senior year: 1st semester. 3 hours ethics required. All rest elective.

1905-1906—Outline of required courses by classes.

Freshman year: Latin or Greek, 3 hours; English, 3 hours; mathematics, 3 hours.

Sophomore year (or Freshman): Modern language, 3 hours; history, 3 hours; physics or chemistry, 3 hours.

Junior year: Philosophy, 1st semester, or psychology, 2d semester, 3 hours.

Senior year: Ethics. 1st semester, 3 hours.

Not more than five courses may be carried each semester.

The required courses in 1910-11 are the same, except that no alternative is offered for Junior philosophy.

The required courses are the same in 1914-1915.

#### ELECTIVES AT WELLESLEY.

1876.—Freshman year prescribed; choice from Greek, German, French. Sophomore year: 1 elective required, 3 offered. Junior year: 2 electives required, 9 offered. Senior year: 2 electives required, 9 offered.

1877-78.—Junior year: 3 electives required. Senior year: 3 electives required.

1879-80.—Sophomore year: 3 electives required. Junior year: 2 electives required. Senior year: 2 electives required.

1883-84.—(Studies counted by subjects offered.)

Classical.

Freshman year: Prescribed, all.  
 Sophomore year: Prescribed, 4; elective, 6.  
 Junior year: Prescribed, 4; elective, 9.  
 Senior year: Prescribed, 3; elective, 17.

Scientific.

Freshman year: Prescribed, all.  
 Sophomore year: Prescribed, all.  
 Junior year: Prescribed, 4; elective, 10.  
 Senior year: Prescribed, 3; elective, 16.

1888-89.

Classical.

Freshman year: Prescribed, all.  
 Sophomore year: Prescribed, 4; elective, 7.  
 Junior year: Prescribed, 6; elective, 23.  
 Senior year: Prescribed, 3; elective, 31.

Scientific.

Freshman year: Prescribed, all.  
 Sophomore year: Prescribed, 4; elective, 10.  
 Junior year: Prescribed, 6; elective, 20.  
 Senior year: Prescribed, 3; elective, 27.

1894-95.—Outline of required courses.

Freshman year: Mathematics, 4 hours; Bible, 1 hour; English, 1 hour; natural science, 4 hours (or in sophomore year, 3 hours).  
 Sophomore year: Physics, 1 hour; English, 1 hour; Bible, 1 hour.

Junior year: Bible, 2 hours; English, 1 hour; philosophy, 3 hours.

Senior year: A natural science here or in junior year.

Language any year.

No more than 15 hours a week.

186 courses open to election.

1900-1901.—Same as in 1894-95, except that the English requirement—4 hours, 2 hours in freshman year, 2 hours in sophomore.

Electives arranged (a) 9 in each of 2 subjects related or unrelated; (b) 9 in one subject, with 9 divided between 2 tributary subjects; (c) 12 in one subject, with 6 in tributary subject; (d) 12 in one subject, with 6 divided between 2 tributary subjects.

168 courses open to election. (Many not given that year.)

1905-6.—194 courses open to election.

1910-11.—217 courses open to election.

1915-16.—245 courses open to election.

### RADCLIFFE COLLEGE.

The history of the conception and growth of Radcliffe College is fundamentally different from that of Vassar or Wellesley. It boasts no founder, no endowments, no early equipment of buildings and grounds. Radcliffe might be said to have begun existence as a thing of ideas without much corporeal embodiment. For a number of years that material embodiment was too cramped and meager to offer to the prospective student anything but purely mental inducement. Even now the college numbers only about half the students of Wellesley or Vassar.

Radcliffe College represents an entirely new movement in the education of women. The plan is more closely comparable with Girton and Newnham than with Vassar or Wellesley. In 1868, Cambridge University in England established examinations for women, and soon after, Girton College was opened near Cambridge for the purpose of giving to women instruction by the university. It had acquired a building of its own by 1879, and at the time of the opening of Radcliffe it was well established. In another suburb near Cambridge, Newnham Hall had been established by the "Association for promoting the higher education of women," in order to provide a place for the women who came from a distance to attend a series of lectures arranged by the university in connection with its examinations. A little before Radcliffe's beginnings, Oxford had extended opportunities for instruction to women through Lady Margaret Hall, and Somerville Hall.<sup>1</sup> That the originators of Radcliffe had the English experiments in mind is borne out by the last paragraph of Mrs. Agassiz's report, in which she says:

We must not forget that in this new departure for women, our ancestor and namesake, the English Cambridge, has given us an example. Newnham and Girton Colleges have been for years firmly established. Their graduates find honorable mention in the records of Cambridge scholarship and are filling places of trust in the higher schools, and, I believe, in other institutions of learning or education.<sup>2</sup>

Radcliffe College, then, seems to be of a slightly different species from either of the two colleges already considered. Both by inheritance and environment it is differentiated from the beginning.

The desirability of extending the opportunities of Harvard University to women was suggested first by Mr. Arthur Gilman, who for years was head of the Gilman School in Cambridge, Mass. Women had already been admitted to semipublic lectures at the university and to the summer courses in chemistry and botany. Like Cambridge, England, Harvard had provided an annual examination for women, but after they had passed it the college did no more for them.

Prof. Greenough, of the Latin department of Harvard, with Profs. Child and Goodwin, had become interested in the education of women by the rare ability shown by a young woman to whom they were privately giving college work.<sup>3</sup> When, therefore, Mr. Gilman proposed an extension of the work, Prof. Greenough was ready to take

<sup>1</sup> Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 332.

<sup>2</sup> Reported by Ladies of the Executive Committee. The Society for the Collegiate Instruction of Women, p. 10.

<sup>3</sup> Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 381.

up the suggestion, and with the aid of some of his colleagues, succeeded in interesting many of the prominent members of the faculty.

A committee on arrangements was formed of Cambridge ladies: Mrs. Gilman, Mrs. Greenough, Miss Horsford, Miss Longfellow, Mrs. Josiah P. Cooke, and Mrs. Louis Aggasiz, a group described by Mr. Gilman as "The first ladies of Harvard Annex, a body of ladies not exponents of any course, but simply persons of social position interested in the education of women." In February, 1879, the committee issued a circular which stated that:

The ladies whose names are appended below are authorized to say that a number of professors and other instructors in Harvard College have consented to give private tuition to properly qualified young women who desire to pursue advanced studies in Cambridge. Other professors, whose occupations prevent them from giving such tuition, are willing to assist young ladies by advice and by lectures.<sup>1</sup>

This and later circulars made clear that the entrance examinations were to be the same as those of Harvard, that "no instruction will be provided of a lower grade than that given in Harvard College," and that the courses would be identical with those of Harvard College, though fewer in number. Thirty-seven professors and instructors offered courses, among them many of the most distinguished teachers of the university.<sup>2</sup> Five of the group of instructors were nominated as advisory board and were made responsible for the courses of instruction, examinations, etc., thus securing from the beginning the standard of scholarship.

The report of 1883 explains more fully why women wish the same curriculum that men have.

Women seeking opportunities for the higher education naturally prefer to find them at an institution which is allied, at least, to one established and carried on for men, because they think that there they will be in the line of progress \* \* \*.

Present them a course of instruction different from that offered to men, and they do not eye it askance because they think it is not so good, but because it is probably just out of the line upon which progress and improvement are to be expected. This is one of the reasons why thoughtful women have less confidence in courses of instruction especially prepared for them than they have in that one upon which the wisdom of men has for generations been working and is still working.

Furthermore, Radcliffe believed that it had the advantage in the way in which its curriculum was administered. The secretary states:

In Smith College the teaching force is composed of men and women, in Wellesley College the teaching is done by women only. In our classes, on the contrary, the instructors are men only, and we are still more restricted in our

<sup>1</sup> Warner, Joseph. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 332.

<sup>2</sup> *Ibid.*, p. 333.

choice, for the men who already give instruction in Harvard College are the only ones from whom we permit ourselves to select our teachers.<sup>1</sup>

Although the salaries given to the professors were inappreciable, the college, since it had no endowment, needed some money. Boston was interested in the experiment and at once supplied money enough to carry it on for four years. A few rooms rented in a house at 6 Appian Way provided a place where the instructors could meet their classes, and 27 students began their work there in September, 1879.

The courses offered were much more numerous than those which were in 1879 prescribed for Harvard freshmen. Most of the Radcliffe students were specials and many were ready to take advantage of advanced work. Only three began the regular required course. The departments of study opened were: \*Greek, \*Latin, \*German, \*French, Sanskrit, English, philosophy, political economy, history, music, \*mathematics, \*physics, botany.

The departments marked with a star were prescribed elementary courses in the freshman year at Harvard, and therefore at Radcliffe.

The second year's curriculum offered: Greek, 4 courses; Latin, 6 courses; Sanskrit and comparative philology, 1 course; English, 4 courses; German, 5 courses; French, 4 courses; Italian and Spanish, 3 courses; philosophy, 6 courses; political economy, 2 courses; history, 5 courses; music, 3 courses; mathematics, 5 courses; physics, 4 courses; mineralogy, 2 courses; natural history (geology, 1; botany, 2; zoology, 2), 5 courses.

Of these 59 courses the secretary reports that 29 were taught to 42 ladies.<sup>2</sup> The department of mineralogy had been opened to replace chemistry, which could not be given because of lack of laboratory. Two years later the difficulty was overcome, and the department of chemistry started in 1882. In 1881 Sanskrit and comparative philology became a separate department, and the fine arts and astronomy were added. After the addition of Hebrew in 1883, and some voluntary lectures in physiology and hygiene, no new departments were added for eight years. The number of courses in that time, however, increased steadily from 59 to 77, and the number of instructors from 37 to 55.

At Radcliffe the curriculum was kept in advance of the demand upon it. The explanation is given in the regents' annual report of 1894.

When this very full list was made and published, it was with knowledge that but few could be found able or could make it convenient with such short notice to enter upon the work the first year, but it was considered wise to present it

<sup>1</sup> Report of the Secretary. Twelfth year, 1891.

<sup>2</sup> Society for the Collegiate Instruction of Women. Report of first year. Arthur Gilman, secretary. P. 15.

entire in the hope that many, seeing that such advanced work is offered here, might prepare themselves to share it in the future, if it should not prove possible to do so at once.<sup>1</sup>

The catalogue early stated that "the managers reserve the right to withdraw any course not taken by three persons."<sup>2</sup> On the other hand, the course in astronomy won a place in the curriculum through the persistence of one student in 1881. In the fifth report, 1884, the committee states that it "prefers to err on the side of generosity as often as possible, because it is the most advanced students who give character to the classes and the institution." Even in the 1914 report of the president and treasurer, 47 courses were noted as having been given to less than three students in a class. In her curriculum, Radcliffe has from the beginning been generous in her response to the intellectual demands of her students.

During the third year, the "managers" obtained a charter under the seal of the State of Massachusetts, and a legal name, "The Society for the Collegiate Instruction of Women," a name which was seldom used, however, as by this time the title "Harvard Annex" had the sanction of usage. The charter announced the aim of the organization, "to promote the education of women with the assistance of the instructors of Harvard University."<sup>3</sup>

Under the heading, "The Society not creating, but satisfying a demand," the secretary's report makes a statement of the aims of the society. The emphasis on the value of education per se strikes a note a little different from that of Mr. Vassar or Mr. Durant.<sup>4</sup>

Mrs. Agassiz, in her report, remarks:

Were every facility offered them, however, we hardly suppose that women would ever look upon a college course of study subsequent to their school life as an inevitable or even necessary part of their education; nor do I think it would seem to any of us desirable that they should do so. But this being granted, there still remain quite enough for whom such a completion of their early training is important in view of their occupation as teachers, and if there are others who ask it purely for its own sake, we surely should not deny them.

<sup>1</sup> Regents' Annual Report, 1894, p. 16.

<sup>2</sup> Courses of Study, 1882-88.

<sup>3</sup> Reports of the Secretary and Treasurer. The Society for the Collegiate Instruction of Women. Third year, p. 3.

<sup>4</sup> "It is not the purpose of the society to stimulate a demand for the education that it offers. Its directors have never held the doctrine that it is the duty of every young woman to pass through a regular course of study such as is represented by the four years' course of the candidates for the bachelor's degree in college. It is their wish simply to offer women advantage for this highest instruction and to admit to the privileges of the society anyone who may actually need them.

"The teachers of America are to a large degree women, and it is desirable that all women who select this profession should be as well prepared to perform its duties as the men who are engaged in similar work. But it is not teachers only who wish the highest cultivation of the mental powers. Many women study with us for the sake of the general addition to their knowledge. It is not demanded that every man who takes a collegiate course shall become a teacher, and more must not be expected of women."

In 1894 she writes of the purpose with which the college started as that "of making a large and liberal provision for the education of women according to their tastes and pursuits, and according also to their necessities, should it be needful for them to use their education as a means of support."<sup>1</sup> The estimate which Radcliffe has had of special students has been different from that of the other colleges for women. Their admission has, as the other colleges feared, inevitably acted on the curriculum, but apparently not in the manner conventionally expected. One report states:

The special students have among us an unusual importance, because they represent investigators, sometimes advanced in years and experience, who come to us with a strong purpose which contact with the world and a struggle for self-support have intensified to an extent that the ordinary undergraduate has no conception of. These women when they leave us carry our methods and principles into immediate action, applying them with energy, and with an efficiency which the graduate from a four years' course can obtain only after years of labor.<sup>2</sup>

After its charter, the next important acquisition of the college was a place in which it might be more comfortably housed. In 1885 Fay House, on Garden Street, was purchased, and the idea of the college for the first time took on corporeal embodiment. Laboratories and lecture rooms in which the instructors could actually leave material for their students provided an equipment by no means equal to that of Harvard, but at least supplying the students with the conveniences generally supposed to be essential to an education.

For the next few years the number of courses remained about the same, in the neighborhood of 58. The report of the secretary for the third year announces under, "Courses offered but not taken:"

It appears that 28 courses were given during the year, and that 27 offered were not given. This shows that the courses offered are for the present beyond the immediate demand for any one year, but, as the demand varies from year to year, with the progress of the different classes and the differing tastes and needs of the students, the list of electives can not be curtailed to advantage.<sup>3</sup>

Up to 1894, the governing board at Harvard had not officially recognized the college, though the body of instructors connected with it included many of the older and more influential men of the university. On December 6, 1893, the board of overseers of Harvard by unanimous vote gave its consent to an arrangement to be made between the university and the Society for the Collegiate Instruction of Women,<sup>4</sup> assuming definite and official relations with the work. In

<sup>1</sup> Report of president, 1894, p. 9.

<sup>2</sup> Report of secretary, 1888.

<sup>3</sup> Report of secretary, third year, 1882.

<sup>4</sup> "Voted, That it is desirable to change the name of this corporation [The Society for the Collegiate Instruction of Women] to Radcliffe College, and that proper ~~le~~ be taken to effect that change."

March, 1894, an act was signed by the governor which allowed "the younger institution to enter upon the heritage of the traditions and opportunities which it has been the good fortune of the older institution to attain during its long history."<sup>1</sup>

By this time the quality of the work at Radcliffe was well established. Says Joseph Warner:

It is to be remembered that the grade of undergraduate work of the annex is that of Harvard College, which is decidedly in advance of that of almost every other college, whether of men or women, in this country. At least the entire work now done in the senior year at the annex would be graduate work in any American college to which women are now admitted, and any woman whose proficiency is fixed by the A. B. degree of one of those colleges must take an entire year of work in the annex before being qualified for its final certificate.<sup>2</sup>

Except for the introduction of comparative literature in 1892, and of economics to replace political economy, in 1893, no new departments had been added since 1883. In this one year, then, 1894-95, by the new classification of courses, and by actual addition, seven new departments appeared in the catalogue.

With the declared connection with the university in 1894, the number of electives was increased. The following table compares the course of instruction in the different departments as given in 1893-94, and as offered for 1894-95:<sup>3</sup>

Departments.	1893-94	1894-95
Semitic languages and history.....	3	10½
Indo-Iranian languages.....	1½	4½
Classical philology.....	13	15½
English.....	14	12½
German.....	7	7½
German philology.....		3½
French.....	7	9
Italian.....	2	3
Spanish.....	1	2
Romance philology.....	½	3
Comparative literature.....	2	2
Philosophy.....	6	10½
History.....	13½	15
Government and law.....	3½	6½
Economics.....	5	6
The fine arts.....	2	2
Music.....	4	4½
Mathematics.....	16	16½
Physics.....	2	6½
Astronomy.....	2	2
Chemistry.....	4	5
Botany.....	4	4
Zoology.....	4	5½
Geology.....	4	8
American archeology and ethnology.....		1
<b>Total.....</b>	<b>111½</b>	<b>166</b>

<sup>1</sup> Radcliffe College. The Regent's Annual Report, 1894, p. 15.

<sup>2</sup> Warner, Joseph B. Radcliffe College. Harvard Graduates' Magazine, March, 1894, p. 338.

<sup>3</sup> Report of Regents, 1894, p. 16.



In the preceding tabulation, the new classification of courses was followed. The reclassified and new departments are: Semetic language and history; Indo-Iranian language; classical philology; Romance philology; government and law; American archeology and ethnology; botany; zoology; and geology. The last three were formerly grouped as natural history.

In 1895-96, under the department of philosophy, a subheading of "Courses in education and teaching" appeared, offering two courses in pedagogy. Four years later a separate department of education was created, and the number of courses was increased to six. The department developed steadily until in 1915-16 it offered 13 courses, seven of which were seminary courses.

In 1896-97 the department of Slavic languages opened with a course in Russian. The same year mineralogy and petrography were introduced.

In 1898-99 Scandinavian literature appeared under Germanic literature. In 1899-1900, the staff of the college had increased to 108 instructors who were offering 230 courses and half courses.

A half course in anatomy and physiology was added in 1903, and the department of anthropology replaced that of American archeology and ethnology.

In 1904 two half courses in the study of Celtic were given.

In 1906 the department of social ethics was opened.

Classical archeology under the division "the classics" was introduced in 1909.

In 1912-13 the general introductory course to the sciences, called the history of science, was opened.

Psychology is first noted as a division apart from philosophy in 1913-14.

The history of the elective system at Radcliffe is that of Harvard. Sometimes a change was not adopted at Radcliffe until it had been enforced at Harvard, but the two have been practically parallel in requirements.

When Radcliffe was established, courses in the following departments were marked with stars in the catalogue, indicating which were required in the freshman year at Harvard College, namely, Greek, Latin, German, French, mathematics, and physics.<sup>1</sup> At that time in Harvard, the junior year was free from all prescribed work except themes, and the sophomore year from all <sup>poetry</sup> except rhetoric and themes.<sup>2</sup>

In 1881-82 at Harvard, the distinction was lost between graduate and undergraduate courses. It had already disappeared among the

<sup>1</sup> Course of Study, 1881-82.

<sup>2</sup> Foster, William T. Administration of College Curriculum, p. 366.

electives formerly listed as senior, junior, and sophomore studies.<sup>1</sup> No mention is made of this change in the Radcliffe documents.

The year 1883-84 marked the extension of the elective system to the freshman year at Harvard, by dropping Latin, Greek, and mathematics from the prescribed course. The seven hours prescribed for freshmen were divided as follows: Rhetoric and English composition, 3 hours; German or French, 3 hours; chemistry and physics (lectures), 1 hour.<sup>2</sup> The first formal notice taken of this change by Radcliffe appeared in the Course of Study of 1886-87.

In 1889-90 Harvard withdrew the prescription of senior forensics and freshman physics and chemistry. The change is noted first at Radcliffe in 1890-91.

In 1894 Harvard announced the only requirement to be freshman English. Gradually from the beginning of Radcliffe's existence, students had been freed from required work, until from 1894-95, for persons who had passed entrance examinations in elementary French and German, a three-hour freshman English course was the only requirement at Radcliffe, just as at Harvard. Arrangements were made by which the student could "anticipate" the English course through examination. This plan practically left the entire course in the hands of the student. The class entering in 1910 and subsequent classes have been required to pass an oral examination to test reading knowledge of either French or German before the junior year. The class entering in 1911 was required to conform to the Harvard rules for the choice of electives, which are as follows:

I. Every student shall take at least six of her courses in some one department, or if in one of the recognized fields of distinction, four in one department.

II. For purposes of distribution all the courses to undergraduates shall be divided among the following four general groups. Every student shall distribute at least six of her courses among the three general groups in which her chief work does not lie, and she shall take in each group not less than one course, and not less than three in any two groups. The groups are: 1. Languages, literature, fine arts, music; 2. Natural sciences; 3. History, political and social sciences; 4. Philosophy and mathematics.<sup>3</sup>

As yet it is early to measure the effect of the new policy upon the Radcliffe students, since but one class has been graduated under the concentration system.

In the year 1912-13, the degree of A. A. was conferred for the first time. This new degree of Associate of Arts has been established in cooperation with Harvard, Wellesley, and Tufts for women who have been summer school students. No entrance examination is required, but the candidate is subject to the following rules:

<sup>1</sup> Foster, William T. Administration of College Curriculum, p. 366.

<sup>2</sup> Ibid.

<sup>3</sup> Radcliffe College Requirements, 1912, p. 45.

1. The candidate is required to pass the number of courses required for A. B.; five of them to be given by officers of Harvard University or in Harvard Summer School.

2. Of these courses, one shall be taken from each of the four groups of subjects to which undergraduates are limited.

3. Not more than five of these courses shall be elementary courses in any one department.<sup>1</sup>

The details of the modern curriculum will be considered under the chapter devoted to the comparison of the modern curricula of the five colleges.

#### BARNARD COLLEGE.

In 1879, the year of the beginning of "Private Collegiate Instruction for Women in Cambridge, Mass.," President Barnard in his report to the trustees of Columbia College, made a strong plea for coeducation. Of the methods of educating women, he was convinced that coeducation was the soundest. The objection to colleges for women, of which he cited as examples Vassar College and Rutgers College, was that:

*They can not, or at least in general will not, give instruction of equal value, though it may be the same in name, with that furnished to young men in the long-established and well-endowed colleges of highest repute in the country; and that it is unjust to young women, when admitting their rights to liberal education, to deny them access to the best.*<sup>2</sup>

That President Barnard was well acquainted with England's experience at Girton, Newnham, and Oxford, and Radcliffe's beginning did not swerve him from the conviction of the superiority of coeducation.<sup>3</sup>

For the two years following, President Barnard renewed his argument for coeducation in his annual report, but the trustees were cautious. Their only precedent was a refusal. In 1876 when the ladies of the Sorosis Society had asked that women be admitted to the college classes, the trustees had unanimously laid the request on the table. Here it was joined by the reports of President Barnard. A second petition in 1883 was long enough and impressive enough to receive consideration. This petition, bearing the signatures of between 1,400 and 1,500 persons asked "how best to extend with as little delay as possible, to such properly qualified women as may

<sup>1</sup> Radcliffe College Requirements, 1912, p. 45.

<sup>2</sup> "Report of President Barnard to Trustees of Columbia College, 1879." Barnard's American Journal of Education, p. 387.

<sup>3</sup> "Moreover, under the gentle urgency of some of the ladies of Cambridge, several of whom are members of the families of the professors, a Newnham Hall has grown up within the heart of the university town itself, in which all the instruction is given by university officers. It looks somewhat as if King Priam had allowed the Trojan horse to be admitted within his walls. There are even some of the garrison who, it is surmised, are already disposed to take part with the enemy."

desire it, the many and great benefits of coeducation in Columbia College by admitting them to lectures and examinations."

The committee of trustees declared itself to be sympathetic with the petitioners, but it could not admit women to Columbia College on equal terms with men. It recommended, however, that the action to be taken should be to draw up and announce a course of study which duly qualified women might pursue, and then, under suitable regulation, present themselves at Columbia for examination. Successful examination would result in a suitable diploma.

The result of these recommendations was the collegiate course for women which began its work in 1883.<sup>1</sup> The statutory regulations governing the course make clear its plan and method of pursuit. Of the fourteen regulations, the following are most illuminating:

1. Women desiring to avail themselves of a course of collegiate study, equivalent to the course given to young men in the college, may pursue the same under the general direction of the faculty of the School of Arts, subject to the principles and regulations hereinafter set forth.

2. The course of study shall extend over a term of four years.

5. A general and very strict preliminary examination shall be held for admission to the four-years' course.

7. Every student so admitted shall be entirely free as to where and how to pursue her studies, whether in some school, private or public, or at home, or under the auspices or direction of any association interested in her welfare and advancement, and providing her with the means of education.

9. All such students as shall have pursued, during four years, a course of study fully equivalent to that for which the same degree is conferred in the School of Arts, and shall have passed all the examinations required, shall be qualified to receive the degree of bachelor of arts.<sup>2</sup>

A wide enough range of study was offered to the women in the groups:

I. English language and literature.

II. Modern languages and foreign literature.

III. Latin language and literature.

IV. Greek language and literature.

V. Mathematics.

VI. History and political science.

VII. Physics, chemistry, and hygiene.

VIII. Natural history, geology, palaeontology, botany, and zoology.

IX. Moral and intellectual philosophy.

Of these groups, one shall be required for the first two years, and with it another shall be selected. On the expiration of the first two years all the groups shall become elective.<sup>3</sup>

Had it not been for the blanket clause, "The place and manner of pursuing her studies are left to the discretion of each student," it would have been indeed a generous provision. Like the early con-

<sup>1</sup> Butler, Nicholas Murray. Barnard College. Columbia University Quarterly, June, 1915, p. 206.

<sup>2</sup> Collegiate Course for Women. Circular of Information, 1888-89, p. 8.

<sup>3</sup> Ibid. Regulations of the Trustees, No. 4, p. 8.

cessions of Cambridge University and of Harvard to women, the plan resolved itself into provision for thorough examination of subjects with no opportunity to study them. The statement of the collegiate course is a long, detailed list of books to study. Students were permitted to offer other textbooks, but they were warned that those offered must be as comprehensive, "or more so!" In French only was an opportunity given to listen to lectures, and in this case only because the lectures were public.<sup>1</sup>

A stronger proof of the genuineness of women's desire for an education could scarcely be given than that 38 of them attempted to obtain it under such conditions; and that a few of them succeeded even in getting degrees must have been reassuring to those who doubted the quality of their brains. As Miss Weed states it: "If a Columbia collegiate course for women, without resources, without foundation, could accomplish what 125 years of wealth, power, organization, and instruction could do for young men, then a great college was an absolute waste of labor and money. \* \* \* If young women, handicapped by every possible difficulty of obtaining instruction, were willing to enter the lists against young men who had every help provided for meeting the tasks set them, then these young women were worth helping."<sup>2</sup> The third fact proved by the experiment was that its extent was utterly inadequate.

In March, 1888, another petition was presented to the trustees asking for an "annex." In reply the trustees laid down certain conditions which must be conformed to before such a plan could be considered. Among these were:

(1) It should involve the college in no pecuniary responsibility; (2) should receive instruction exclusively by professors and instructors of Columbia; and (5) should terminate its connection with Columbia if unsatisfactory.<sup>3</sup>

These conditions were agreed to, and at a meeting of the trustees on April 1, 1889, the following resolution was passed:

*Resolved*, That the trustees of Columbia College approve of the persons named in the memorial of "The Friends of Women's Higher Education" as trustees of the corporation the memorialists propose to establish, and of the persons named as associates of the organization. They also approve of the name "Barnard College," and of the constitution and set of by-laws which the memorialists have submitted and proposed to adopt.<sup>4</sup>

A circular of information was at once issued, announcing that "Barnard College will open on Monday, October 7, 1889, at 345 Madison Avenue, and will receive only students fitted for admission

<sup>1</sup> Collegiate Course for Women. Circular of Information, 1888-89, pp. 12-31.

<sup>2</sup> Weed, Ella. Report of Academic Committee, 1890, p. 8.

<sup>3</sup> Brewster, William F. Barnard College. Columbia University Quarterly, March, 1910, pp. 154-155.

<sup>4</sup> *Ibid.*, p. 155.

to the classes of the freshman year.”<sup>1</sup> It further announced a list of seven officers of instruction and government of Columbia College, who “will be in charge of the classes of Barnard College.” The departments represented in the first curriculum were Greek, mathematics, Latin, English, German, botany, and French. All of the work was prescribed, allowing only a choice between German or French.

Mr. Brewster notes that “in this initial year the college offered scarcely more than an enterprising student could complete in two terms. To-day enough courses are given to occupy the time of a student for over 35 years.”<sup>2</sup>

The next year a significant step was taken by the trustees of Columbia College, one which foreshadowed a difference from Radcliffe in policy regarding the composition of the faculty. At Radcliffe from the beginning the instruction had been carried on by the faculty of Harvard University. Radcliffe has no faculty of its own. In May, 1890, by an amendment of the constitution of Barnard College, the trustees of Columbia provided “that its faculty shall consist of professors and instructors to be approved by the president of Columbia College.” The same resolution permitted the appointment of Dr. Emily L. Gregory to the position of lecturer on the anatomy and physiology of plants, and the charge of the laboratory.<sup>3</sup>

Mr. Brewster points out that this meant in practice (1) the passing by Columbia on all examinations and all instruction at Barnard; (2) the examination by Columbia of the sufficiency of the degree conferred by any woman's college on students who desired to enter the graduate schools; and (3) the recognition of the president's office as the only official means of communication between the colleges.<sup>4</sup>

The resolution resulted also in the gradual growth of a faculty group which belonged to Barnard alone. The first exception to instruction by Columbia faculty, made in the case of Dr. Gregory, has been followed by others, largely women, who give instruction at Barnard College only. In the announcement of 1895-96 three names are starred in the list of the faculty as “not connected with Columbia University.”<sup>5</sup> In the Barnard catalogue of 1915-16, out of a faculty of 97, 37 members give no instruction in Columbia University except in Barnard College. Of this group of 37, 31 are women, and in it are found representatives in 13 departments out of the 22 listed.<sup>6</sup>

Absolute conformity of examination was the rule in the early years of Barnard, and the students were obliged to take examinations

<sup>1</sup> Brewster, William F. Barnard College. Columbia University Quarterly, March, 1910, p. 7.

<sup>2</sup> *Ibid.*, p. 156.

<sup>3</sup> *Ibid.*, p. 158.

<sup>4</sup> *Ibid.*, p. 159.

<sup>5</sup> Barnard College Announcement, 1895-96.

<sup>6</sup> *Ibid.*, 1915-16.

made out by the Columbia professors whether their class work had been under them or not. The examination books were designated by number and turned over to Columbia for correction. At the present time Barnard governs the content and correction of her own examinations.

A repetition of the details of the curriculum of one college by another if handled by two sets of instructors is bound to contain some variations in result. If, as is the case with the modern college, freedom is permitted the instructor in his use of the curriculum, more modification still will follow. It seems fairly probable, then, that a greater difference will exist between the courses as given at Columbia and Barnard than between the courses as given at Harvard and Radcliffe, where the instructors simply repeat their work. In spite of this fact, however, Columbia grants degrees to Barnard students, while Harvard requires Radcliffe to provide her own degrees.

Barnard has by an exchange system been able to enlarge its curriculum to a considerable degree. By paying the full salary of a professor and taking only part of his time, Barnard received from Columbia in exchange for the rest of his time, the service from another professor. This exchange plan originated with the unwillingness of the faculty of political science, in 1895, to avail itself of its statutory right to admit women. To satisfy the demand for history and economics the payment of the salaries of three professors for three years was guaranteed to Barnard College by a friend. The college, instead of setting up a graduate faculty of its own, turned over to Columbia a large proportion of the time of the new instructors, Profs. Clark, Robinson, and Cole, and received in exchange a number of courses from a half dozen or more university professors.<sup>1</sup>

Mr. Brewster believes that at Barnard two principles have obtained a fixity as nowhere else in the country. First, that Barnard must have instruction equal to that of Columbia University, and its curriculum must be as good at least as that for the men of corresponding age; and, second, that Barnard is an independent college, with its faculty primarily its own and devoted to its interests, and yet by a process of exchange receiving and giving university instruction in various degrees.<sup>2</sup>

Unlike Radcliffe, Barnard has dealt very strictly with the special student. Miss Weed in her report at the end of the first year states as a problem of the committee "whether this new means to women's education should represent a systematic course of study, or whether it should be a haven where any woman, of any age, could study anything." That Columbia accepts special students is no argument, since

<sup>1</sup> Putnam, Emily J. *The Rise of Barnard College. Report of the Dean, 1895.* Columbia University Quarterly, June, 1900.

<sup>2</sup> Brewster, William F. *Columbia University Quarterly*, March, 1910, p. 1.

"a man wishes to become a special student usually because he has a preference for the subject he elects. A girl wishes a special course at college, because she desires to avoid some subject, usually Greek." Moreover, "The very large proportion of specials at the Harvard Annex can not fairly be urged as an argument. Harvard does not give women its degree; Columbia does; and we shall do all we can do well if for the present we fit them for that degree."<sup>1</sup> Specials, therefore, were not encouraged.

The announcement of 1890-91 states that students desiring to pursue special courses in botany, chemistry, or Hebrew, must pass the examination required for admission to freshmen classes, except as may be otherwise ordered in special cases by the executive committee. On the other subjects, however, the college seems to stand firm.<sup>2</sup> In 1895-96 special students were admitted to courses in botany and chemistry. A course of four years was offered in botany, on the satisfactory completion of which students were entitled to a certificate of work done.<sup>3</sup>

At the present time, 1915-16, two classes of special students are admitted, matriculated and nonmatriculated. The former, while obliged to pass the regular admission examinations, may make a serious study of some subject; the latter are exempt from entrance examinations, but they must furnish proof of having pursued the studies therein prescribed, and they must be ready to pursue advanced work.<sup>4</sup>

From the beginning stress was laid on the value of the work offered in botany. The annual report of 1890-91 quotes Dr. Gregory in regard to its practical importance as a study for women. "The work of the botanist," she says, "is such that a woman is specially fitted for it." Among the vocations opened up by botanical work she notes pharmacy, work in agricultural stations, such as mycology and investigation of parasites.<sup>5</sup>

Miss Weed gives two full pages of her report in 1891 to a description of botanical work which with chemistry she terms the two ventures of Barnard outside the undergraduate work. "If the day ever comes when Columbia feels it wise to acknowledge the training value of scientific study," she writes, "Barnard hopes that her experience will be carefully examined."<sup>6</sup>

The development of the curriculum is largely a record of the opening to Barnard of the different departments at Columbia.

In 1890-91 the following departments offered work to students: Greek, Latin, Hebrew, German language and literature, French

<sup>1</sup> Weed, Ella. Report of the Academic Committee, 1890, p. 11.

<sup>2</sup> Barnard College Announcement, 1890-91.

<sup>3</sup> *Ibid.*, 1895-96.

<sup>4</sup> *Ibid.*, 1915-16.

<sup>5</sup> Arnold, Augusta F. Barnard College Annual Report, 1890-91, pp. 9, 10.

<sup>6</sup> Weed, Ella. Barnard College. Report of Academic Committee, Nov. 11, 1891, pp. 10-13.



language and literature, pure mathematics, applied mathematics, geology, botany, zoology, philosophy.

The announcement gives the synopsis of freshman and sophomore studies which are all prescribed.

## FRESHMAN.

Greek.  
Latin.  
Geometry, 1 semester.  
Algebra, 1 semester.  
French or German.  
Poets of the present time; rhetoric and composition; analysis, 1 semester; and syntax, 1 semester.

## SOPHOMORE.

Greek.  
Latin.  
Trigonometry.  
Chemistry.  
Literature and composition.  
European history.  
French or German.

Students are offered opportunities to work for the degrees of doctor of philosophy, doctor of science, doctor of letters.

The requirements of the freshmen and sophomores five years later are in the same departments except that chemistry is no longer an absolute requirement.

The junior curriculum is as follows: Rhetoric, history, philosophy, political economy, and 11 hours of elective courses.

The seniors are required to take 15 hours of elective courses.<sup>1</sup>

The entire schedule of courses for Barnard offered in 1895-96, is as follows:<sup>2</sup>

Biology.	Oriental languages (Sanskrit, Iranian, Semitic), 9.
Botany, 5.	Physics, 4.
Zoology, 1.	Philosophy, 8.
Chemistry, 2.	Education, 2.
English, 8.	Political economy, 4.
Germanic languages, 14.	Rhetoric and English composition, 5.
Greek, 13.	French, 6.
History, 4.	Italian, 4.
Language, 1.	Romance philology, 1.
Latin, 9.	Sociology, 1.
Mathematics, 9.	

The year 1897 marked a time of expansion in Barnard College. Through endowments and gifts the college was able to establish itself in the present well-equipped buildings. At the same time a new curriculum of considerable elasticity went into effect, "by the provision of which it is possible for a student to choose a course adapted to her peculiar capacity and aim in life."<sup>3</sup> The change began with admission requirements by permitting an alternative for Greek. After entrance students, by the new curriculum, could graduate without studying Greek. Every student was obliged to study Latin, English, history, and mathematics, and to have a reading knowledge of French and German. The rest of the required work was in science, and much freedom of choice was allowed.<sup>4</sup>

<sup>1</sup> Barnard College Announcement, 1890-91.

<sup>2</sup> *Ibid.*, 1895-96.

<sup>3</sup> The Dean's Annual Report, 1896, p. 8.

<sup>4</sup> Barnard College Announcement, 1897-98.

*Curriculum for students entering on Greek and French or German.*

## Freshman year:

Prescribed. (12 hours.)

Latin or Greek.

German—Substitution of French if German was presented.

Mathematics

Rhetoric.

## Elective:

French.—Substitution of German if French was presented.

Latin or Greek.

Chemistry.

Physics.

## Sophomore year:

Prescribed. (7 hours.)

History.

Rhetoric.

One of following: Botany, chemistry, physics, zoology.

Elective. (9 hours.)

*Curriculum for students entering on advanced mathematics, natural science, French, and German.*

## Freshman year:

Prescribed. (6 hours.)

Latin.

Rhetoric.

Elective. (9 hours.)

French.

Latin or Greek.

Chemistry.

Physics.

German

Mathematics.

## Sophomore year:

Prescribed. (4 hours.)

History.

Rhetoric.

Elective. (12 hours) as in Group I.

*All groups.*

## Junior year:

Prescribed. (8 hours.)

Philosophy. (first semester.)

Political economy. (second semester.)

Elective. (12 hours.)

## Senior year:

15 hours of elective courses.

117 courses are announced by the departmental statement.<sup>1</sup>

In March, 1898, an agreement was made between Barnard and Teachers' College whereby "Every woman student duly matriculated in Teachers' College, who is eligible for admission to Barnard College, may, by registering as a student of Barnard College, become entitled to all the privileges enjoyed by the students of Barnard College in the university, and may become a candidate for university

<sup>1</sup> Barnard College Announcement, 1877-98.

degrees." On the other hand, Barnard students, by proper choice of electives were able to secure a professional diploma from Teachers' College with the university degree.<sup>1</sup> By this arrangement 20 courses in education were added to the Barnard College curriculum.<sup>2</sup>

An important matter of legislation was recorded early in the year of 1900, when the trustees of Columbia College and Barnard College entered into a formal agreement concerning the incorporation of Barnard College in Columbia University, and the establishment of the faculty of Barnard College as one of the university faculties. Mr. Brewster comments on the significance of this agreement as a provision for elasticity and development by permitting Barnard variation of courses in any desired direction without the withdrawal of the safeguard of university supervision.<sup>3</sup> It resulted in a steady, consistent growth of equipment and resources. The courses offered in 1900 numbered 148. Of these the students are allowed greater freedom of election than in 1896 by the following arrangement:

*Prescribed course for all students.*

Latin.....	3 hours.	(Freshman; unless advanced Latin is offered at entrance.)
English.....	3 hours.	(Freshman.)
English.....	2 hours.	(Sophomore.)
Economics.....	3 hours.	(First semester, junior.)
Psychology.....	3 hours.	(Second semester, junior.)

Unless the following subjects are offered at entrance, a three-hour course in each is prescribed: French, German, natural science, (advanced) history, (advanced) mathematics.<sup>4</sup>

All graduate work after 1900 was given over to Columbia, Barnard having already granted 68 masters' and 6 doctors' degrees.

In 1905 the college adopted a modified curriculum, prescribing the courses more accurately and requiring a more definite specialization in one field. About one-half the required points, 120, were unprescribed courses, the subjects of which were the same as in 1900, except that hygiene was prescribed for all students, and two half courses in botany, chemistry, geology, psychology, or zoology, in addition to the requirement of chemistry and physics which might be passed off by an equivalent at admission. "At least 9 points, exclusive of prescribed work, must be made under some one department before graduation." The number of courses, including those in education which were given at Teachers' College, was increased to 190.<sup>5</sup>

<sup>1</sup> The Dean's Report, 1898.

<sup>2</sup> Barnard College Announcement, 1898-99.

<sup>3</sup> Brewster, William F. Barnard College. *Columbia University Quarterly*, March, 1910, p. 163.

<sup>4</sup> Barnard College Announcement, 1900-1901.

<sup>5</sup> Announcement, 1905-6.

The course in pure science, leading to the degree of bachelor of science, was opened. It required about the same work in courses as did the arts course, and at the same time a specialization in some branch of science.

The next year, 1906, Barnard offered its students for the first time a curriculum which permitted work for the degree of bachelor of science as well as bachelor of arts. It is interesting to note that 86 years after Vassar and 18 years after Wellesley had given up the plan of offering the two undergraduate degrees, Barnard attempted it, and, if the result may be judged from its place in the curriculum of to-day, made a success of it. The prescribed studies for both courses are given in parallel columns, as they were in the cases of Vassar and Wellesley.

Program leading to B. A.

English, 12 points.  
 French and German, 12 points.  
 History, 6 points.  
 Mathematics, 6 points.  
 Philosophy, 6 points.  
 Physical education, 4 points.  
 Latin, 6 points.  
 Economics, 3 points.  
 Botany, chemistry, geology, psychology, or zoology, 6 points.  
 Major subject, 18 points.  
 Free electives to complete a total of 124 points.

Program leading to B. S.

Same.  
 Same.  
 Same.  
 Same.  
 Same.  
 Same.  
 Grouped work: Astronomy, botany, chemistry, geography, geology, mineralogy, physics, psychology, and zoology.  
 70 points, 28 of which shall be in a major subject, 12 in an allied minor, and 12 in a diverse minor.  
 Free electives to complete a total of 124 points.

Two hundred and ten courses in 23 departments were open to the students, under 61 members of the faculty. An arrangement was made with Teachers College by which Barnard College provided the collegiate courses required by Teachers College, and the latter withdrew its collegiate curriculum, accepting students for its professional curriculum only. Barnard students, upon completion of 91 points of work, or with proper prerequisites, 60 points, were allowed to transfer to Teachers College and become candidates for the professional diploma as well as the academic degree.<sup>1</sup>

A course designed to give the students a general idea of the problems, methods, and results of the natural and social sciences was added to the curriculum under the title of Introductory Courses, and was given by 10 of the instructors.<sup>2</sup>

In 1912-13 new requirements in modern languages were announced. No modern language course in college was to be prescribed, but a

<sup>1</sup> Announcement, 1906-7.

<sup>2</sup> Ibid., 1911-12.

working knowledge of French and German, tested by oral examination, was to be required before the senior year. The student offering Greek was exempt from one modern language.

The same catalogue announced that certain graduate courses in Columbia University under the faculties of political science, philosophy, and pure science, were open to especially qualified students. The schools of architecture, music, and education, the Union Theological Seminary, and the New York School of Philanthropy all offer work which may be credited toward the Barnard degree. A long step from the list of seven departments conducted by seven instructors in 1889-90!

The next year, 1913-14, the school of journalism was added to the list of schools to which the Barnard student might transfer after two years of collegiate work. Two hundred and thirty courses were in 1914-15 offered by a faculty numbering 99 and representing 22 different departments. The curriculum of 1915-16 will serve as the basis of the study of the modern curricula.

#### MOUNT HOLYOKE.

To trace the development of Mount Holyoke through the years of its existence as a seminary would accomplish much the same result as far as concerns its relation to Mount Holyoke, the college, as to trace the history of the development of the preparatory schools connected with Vassar or Wellesley. Mount Holyoke, founded as a seminary in 1837, constructed for itself a seminary curriculum. When, in 1888, Mount Holyoke was granted its seminary and college charter, it created a college curriculum, still retaining for its seminary students the seminary curriculum. Finally, when in 1893 Mount Holyoke was granted a college charter only, it gave up its seminary curriculum, much as Vassar and Wellesley gave up their preparatory curricula, and presented to its students a full college curriculum evolved not so much from a modification of its seminary work as from careful study of the contemporary colleges.

The early pamphlets of the seminary are full of historical and sentimental interest, though the studies are the forbears of nothing in the later college curriculum. The first catalogue gives the senior class studies as chemistry, astronomy, geology, ecclesiastical history, evidences of Christianity, Whately's Logic, Whately's rhetoric, moral philosophy, natural theology, and Butler's Analogy. It would be interesting to trace the way in which Latin crept into the curriculum; the hint of it in the first catalogue, which mentions that "individuals may devote a part of their time to branches not included in the regular course of study, 'Latin, for instance'"; the notice in the catalogue of 1840-41 that the study of Latin is earned

mended by the trustees and teachers for mental discipline and that "an extension of the course of study so as to embrace Latin among the required branches has been contemplated, but it is supposed that the views of the community will not at present allow of it"; on through the catalogue of 1846, which states that it is believed that the state of education in the community is now such that it (Latin) can be required hereafter of every graduate," to 1847, when at last "Young ladies who aim at a superior and extensive education must pursue the study of the languages" and "a good knowledge of Andrews's and Stoddard's 'Latin Grammar' and Andrews's 'Latin Reader' is required for admission to the seminary."

Or it would be of interest to trace the development of the study of English literature from the curriculum, which offered in each of the three years, respectively, Pope's *Essay on Man*, Young's *Night Thoughts*, and Milton's *Paradise Lost*; a time so near the romantic period that Young's *Night Thoughts* probably proved too modern and the literature resolved itself for years into Milton's *Paradise Lost*.

The real college curriculum, however much it may have gained from seminary experience in wisdom of selection and emphasis, was first established at Mount Holyoke in 1888.

The catalogue of 1887-88 announces:

A college department will be inaugurated in September, 1888, the trustees having been duly empowered to take this step by a recent act of the Legislature of Massachusetts. The requirements for admission, and the studies of the first year, will be substantially the same as those of New England colleges generally.

The next year the catalogue outlined three courses of study, the classical course, the scientific course, and the seminary course. Both Latin and Greek were required for admission to the classical course, but French or German could be substituted for Greek by the scientific students. All college students were required to present mathematics, geography, history, English, science of government, physiology and botany.

The courses were divided among three terms in each year as follows:

		FIRST YEAR.		
		<i>Classical.</i>		<i>Scientific.</i>
Fall-----	{	Latin. Mathematics. Greek.		Latin. Mathematics. French or German.
Winter-----	{	Latin. Mathematics. Greek.		Latin. Mathematics. French or German.
Spring-----	{	Chemistry. Mathematics. Greek.		Chemistry. Mathematics. French or German.

One hour courses for year :

Rhetoric.	Rhetoric.
Drawing.	Drawing.
Bible.	Bible.
Gymnastics.	Gymnastics.
English literature.	Physiology.

SECOND YEAR.

Fall-----	{ Chemistry. History. Latin. Greek.	Chemistry. History. Mathematics. French or German.
Winter-----	{ Ancient history. Latin. Greek. Electives: Mathematics, French, German, chem- istry.	Ancient history. Mineralogy. French or German. Electives: Chemistry, mathematics.
Spring-----	{ History. Botany. Electives: Mathematics, Latin, Greek, French, German.	History. Botany. Electives: Same, except Chemistry in place of Greek.

One hour courses for year :

Rhetoric.	Rhetoric.
Bible.	Bible.
Gymnastics.	Gymnastics.
Physiology.	Elocution and vocal music.

JUNIOR YEAR.

Fall-----	{ Zoology. Botany. History. English literature. Logic. Electives: French, Ger- man, Latin, mathemat- ics.	Zoology. Botany. History. Mechanics. Electives: None.
Winter-----	{ English literature. Physics. History. Electives: French, Ger- man, mineralogy, physi- ology, biology.	English literature. Physics. History. Electives: Same, with chemistry.
Spring-----	{ Astronomy. Geology. Physics. Electives: French, Ger- man, history, English literature, physics.	Astronomy. Geology. Physics. Electives: None mentioned.

One hour courses for the year :

Rhetoric.	Rhetoric.
Bible.	Bible.
Gymnastics.	Gymnastics.
	Elocution and vocal music.

## SENIOR YEAR.

Fall-----	Psychology. Electives: Literature, biology, history, astronomy, physics, mineralogy, Latin, and Greek.	Psychology. Electives: Same, with chemistry and mathematics.
Winter-----	Political economy. History of art. History of philosophy. Theism and Christian evidences.	Political economy. History of art. History of philosophy. Theism and Christian evidences.
Spring-----	Ethics. Theism and Christian evidences. Electives: International law, English literature, biology, physics, chemistry, Anglo-Saxon.	Ethics. Theism and Christian evidences. Electives: International law, English literature, biology, physics, geology.

One hour courses for the year :

Rhetoric. Bible. Gymnastics.	Rhetoric. Bible. Gymnastics.
------------------------------------	------------------------------------

Elocution or vocal music through three years of course.

Though the above elaborate curriculum is presented in addition to the seminary curriculum which has not been curtailed, the teaching force remains the same. The list of "Teachers" in 1887-88 checks up with the list of "Faculty" in 1888-89, in number 33 members, and with but few changes in individuals.

Twenty students registered for the scientific course, 22 for the classical, and 272 for the seminary course, showing that the greatest demand upon Mount Holyoke was decidedly upon its seminary.

In 1890 still another college course was added, called the literary course. The entrance examination was the same as for entrance to the classical course, except that French or German was required instead of Greek. Latin was required in the freshmen year only, and the emphasis was laid on literature and the languages. In spite of this enlargement of the curriculum the faculty still numbered but 34, and there were but five changes in individuals, the usual shifting of the newer and younger members of the faculty. The degrees conferred were bachelor of arts, bachelor of science, and bachelor of literature.

Like Vassar and Wellesley, Mount Holyoke offered special advantages to teachers, allowing them to enter without examination if they were over 21 years old and had taught at least a year.

The distribution of the students by this year showed a gain of the college over the seminary, 145 to 122 seminary students, with 22 specials. The members of the faculty, however, numbered but 32.



In 1893 the charter was granted by which Mount Holyoke Seminary and College became Mount Holyoke College. The catalogue of 1892-93 contained no seminary course of studies and the number of seminary students dropped from 122 to 8, while the number of students of the literary course increased in the same year from 6 to 129.

In the 14 departments 128 courses of one or two semesters were offered, exclusive of Bible and music, which did not list their courses. The college offered the degree of A. M. for the first time when the 1893 charter was granted, requiring for it the B. A., a year of residence, and a satisfactory thesis. The curriculum seemed to have no special modification for graduate work.

Students were admitted on certificates from 1894-95. The curriculum was continued in the three-course arrangement, classical, literary, and scientific, until 1898, when the first freshman class was admitted under the present arrangement leading to the degree of bachelor or arts only. The degree of master of arts continues to be granted up to the present. Of the minimum requirement for the bachelor's degree, 112 hours, 58 were prescribed as follows:

<i>Freshman year.</i>		<i>Junior year.</i>	
Latin.....	4 (hours per week	Philosophy.....	4.
Greek.....	} 4. for each se-	Bible.....	2 (2d semester).
French.....		mester).	
German.....		<i>Senior year.</i>	
English.....	1.	Elective.	
Mathematics.....	4.		
Bible.....	1.		
<i>Sophomore year.</i>			
English.....	1.		
History.....	} 4.		
Physics.....			
Chemistry.....			
Bible.....	1.		

Twenty hours of the work had to be devoted to the major subject which was chosen during the sophomore year. The hours prescribed in the different studies shifted slightly during the next few years, but the general rule was maintained, that of the four years, two to be of prescribed work and two of elective. The curriculum, enlarged both in departments and courses, offered a much wider choice than under the three-course arrangement. Twenty-four departments in 1898 offered 187 courses of one or two semesters. The members of the faculty were increased to 46.

The growth of the curriculum was rapid from the establishment of the legislation leading to the degree. In 1900 the courses numbered 223; in 1905, 273; in 1910, 297; in 1915, 319. By 1910 the number of the faculty had increased to 110 and in 1915 to 120

No new departments were established after 1900, although subjects were grouped differently in the departments, i. e., drawing and painting, instead of being a separate department, became part of the department of art and archeology, and the department of Hebrew was in 1902-3 included in Biblical literature.

In 1907-8 a change was made in the prescribed work. Out of 120 hours required for a degree, the following were prescribed:

English.....	9 hours
English literature.....	6 hours
Latin.....	6 hours
Greek, French or German.....	6 hours
Mathematics.....	6 hours
Biblical literature.....	6 hours
Philosophy.....	6 hours
History.....	6 hours
Physics and chemistry.....	6 hours
Any science.....	6 hours
	<hr/> 63 hours

In addition, 30 hours had to be given to major subjects, and 27 to free electives.

The present requirements differ only in giving a choice of Latin or Greek, in including psychology with philosophy, and in limiting the science to any natural science.

Most of the departments have developed by the accretion of new courses from year to year. The new college curriculum of 1888 had the elements of all the later departments, although the nomenclature was often different.

## II.—A COMPARATIVE STUDY OF MODERN CURRICULA.

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The material used in the comparison of the modern curricula of the five colleges in which the historical development of the curricula has already been traced is from the following sources: First, the courses of study and reports of 1915-16 for Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke; second, information gained by interviews with teachers and students of the courses of study; third, by observation of the actual teaching. The college catalogues vary greatly as to the amount and value of the information contained therein. Vassar, Wellesley, and Mount Holyoke to a lesser degree, make a brief statement of the ground covered by a course; Barnard states only prerequisite points and fees; while Radcliffe, besides the "Course of Instruction," uses the official register pamphlets of Harvard, which give the details of the courses in each department. The last method would appear to obviate for the student the necessity of as complete advisorship from the faculty as is incurred by the less detailed information of the ordinary catalogues. Information gained by interviews with teachers and students is of value only to give the kind and amount of work which the course *aims* to accomplish, and second, the kind and amount of work which it actually did accomplish in particular cases. Observation of the actual teaching of the college instructor is lessened in the value of its results by the fact that no supervision of college teaching is customary, and in consequence the instructor is ill at ease if subjected to observation.

The material is handled, first, as a whole, by a comparative tabulation of all the courses and half courses offered in the five colleges; second, the same tabulation in hours; third, by analyses of separate departments in each college; fourth, by comparison of corresponding departments in the five colleges.

## Courses of instruction for 1915-16.

Departments.	Vassar.		Wellesley.		Radcliffe.		Barnard. <sup>10</sup>		Mount Holyoke.	
	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.	Courses.	Hours.
Anthropology.....					4	10½	14	34½		
Archaeology.....	3	3	1	3	5	4			(*)	
Architecture.....							9	17		
Art.....	8	11	10	22	11	17	1	2	12	21½
Astronomy.....	11	14½	6	15	3	9	2	6	6	9½
Bible.....	6	8	8	17	4	2	1	2	7	13½
Botany.....	3	7½	8	22	10	19½	9	26	9	14½
Chemistry.....	12	25	9	18	10	23	6	22	13	19
Economics.....	9	14½	9	15	18	43½	13	24	11	19½
Education.....	2		8	21	15	31½	8	21	12	13½
English:										
Comparative.....					5	9½				
Composition.....	8	19	7	17	5	15	6	16½	15	22½
Language.....			2	6						
Literature.....	13	31½	17	44	18	36½	14	32½	19	29½
Spoken.....	8		3	7	2	4	1	2	4	3
French.....	14	28½	12	25	11	29	11	32	13	22
Geology.....	6	8½	6	15	8	13½	15	27	6	8½
German.....	16	28½	19	29½	24	46½	19	36	13	30
Greek.....	15	24	7	19	9	19½	14	20½	14	22½
History.....	18	37	15	35	21	45½	12	29½	14	27
Introductory science.....					1	1½	1	2		
Italian.....	2	6	5	12	4	9	3	9	2	3½
Latin.....	23	25	13	20½	9	15	13	22	10	17½
Mathematics.....	11	21	10	21½	30	67½	8	20½	14	29½
Music.....	10	15	13	24	6	12	8	17	15	16½
Old Irish.....					(*)		1	1		
Philology:										
Classical.....					7	14½	(*)			
Comparative.....			1	3						
Indic.....					9	18				
Romance.....					4	5	1	3		
Philosophy.....	9	12	6	13	13	23	13	26	8	10½
Physics.....	9	14½	6	12	6	13½	9	19½	12	16½
Physiology and hygiene.....	3	4½	1	1	1	2	2	1	1	1½
Political science.....	5	9	(*)	1	7	19½	1	3	2	4
Psychology.....	9	9	5	10	5	9	11	25½	5	7
Semitic language and history.....					6	15				
Slavic language.....					3	6				
Social ethics.....					6	11½				
Spanish.....	2	6	3	9	4	9	3	9	1	3
Zoology.....	7	12½	7	18	14	28	7	19	13	22½
Total number of courses.....	235		217		314		236		251	
Total number of hours.....		395		475½		656		528		404
Total number of departments, 40.....	26		28		35		31		25	

<sup>1</sup> In philosophy.<sup>2</sup> Hygiene department offers 22 teacher-training courses and 10 general courses; zoology department includes one physiology course.<sup>3</sup> In history.<sup>4</sup> Semitic.<sup>5</sup> Omitted, 1915-16.<sup>6</sup> With Latin and Greek.<sup>7</sup> In Education.<sup>8</sup> With art.<sup>9</sup> In zoology.<sup>10</sup> The minimum value is given for Columbia courses offered at Barnard. The number of points is usually determined by the amount of individual work.

The object of the arrangement in tabular form of all the courses and half courses offered for a B. A. is, first, to ascertain all of the subjects taught by women's colleges as represented by the chosen five; second, to measure the amount of work done in each subject in

courses and half courses in each of the different colleges; third, to measure the richness of curriculum in individual colleges by a record of all subjects emphasized and omitted; fourth, to find the total number of courses and half courses offered by each college.

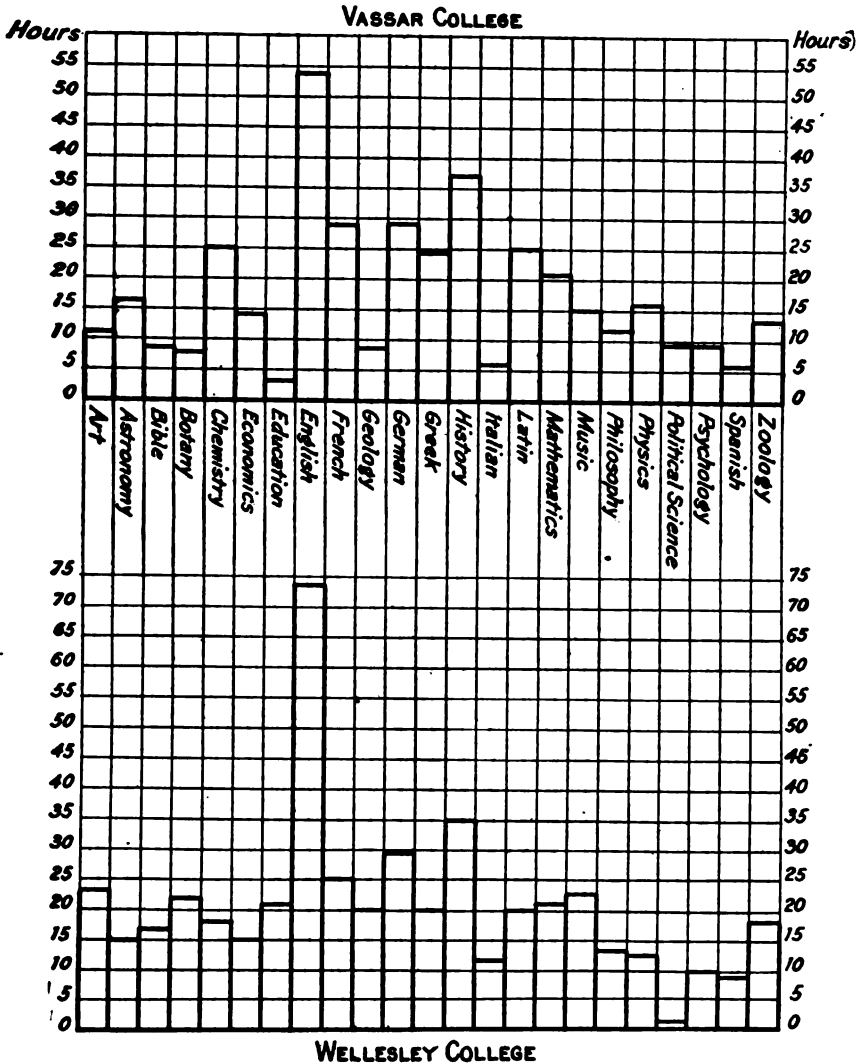


FIG. 1.—Number of hours given to subjects common to the five colleges.

The number of department units into which the subjects are grouped totals, 40. Of the colleges, Barnard and Radcliffe (the two colleges allied with men's universities) most closely approximate the total number. Of the 5 lacking 40 at Radcliffe, Bible is given in the Semitic department, and Old Irish is omitted in 1915-16. 1

only three special departments unprovided for—architecture, English language, and comparative philology.

Radcliffe presents a total of 35 departments; Barnard, 31; Wellesley, 28; Vassar, 25; and Mount Holyoke, 25. That Radcliffe offers more graduate work than the other colleges in no way affects the

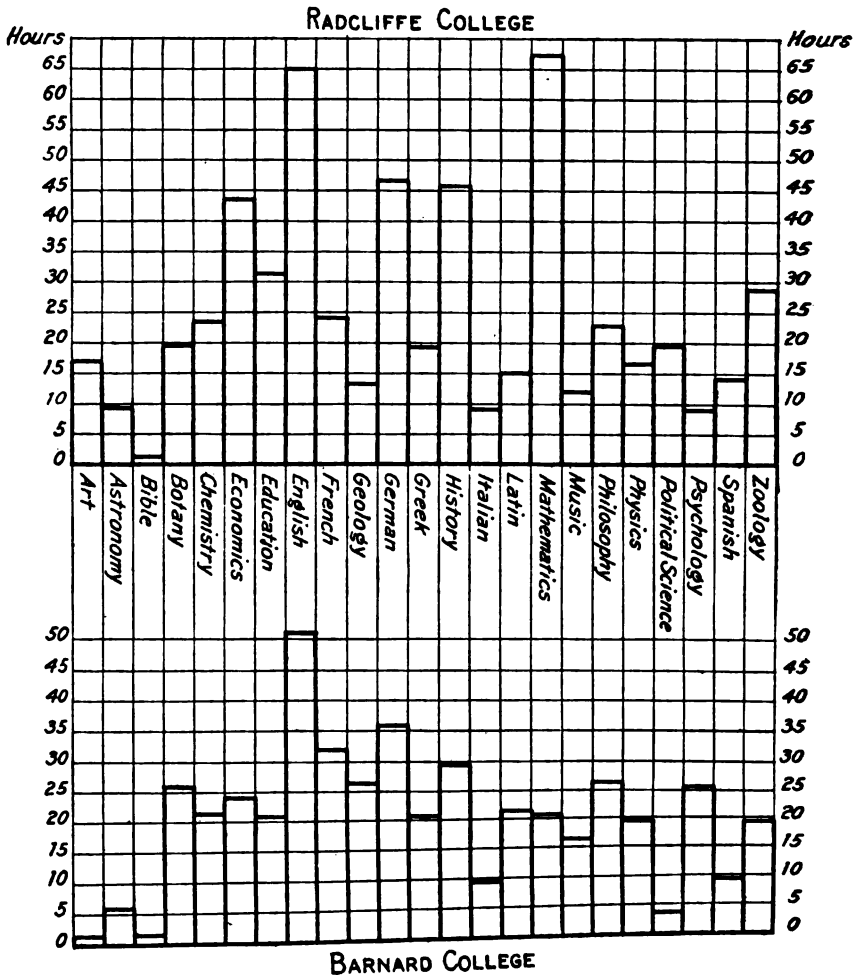


FIG. 2.—Number of hours given to subjects common to the five colleges.

number of departments of the college, since each department offers some undergraduate work.

Of the total number of courses and half courses, or year and semester courses, Radcliffe again has the lead by a large majority, this time in consequence of the broader curriculum necessary for graduate work.

A modification of the total of Wellesley is made necessary by the exclusion of the 22 courses of the hygiene department which lead to

a special certificate. In none of the colleges have the courses in gymnastics, sports, and dancing been reckoned.

The totals of courses show the colleges in the following order: Radcliffe, 314; Mount Holyoke, 251; Barnard, 236; Vassar, 235; Wellesley, 217. The arrangement at Mount Holyoke of semester courses to a large degree in all departments accounts for the lead over the colleges which use the year unit more frequently. Since, however, each semester usually deals with a separate subject, the summary in terms of semesters gives the amount of distribution of subjects within the department.

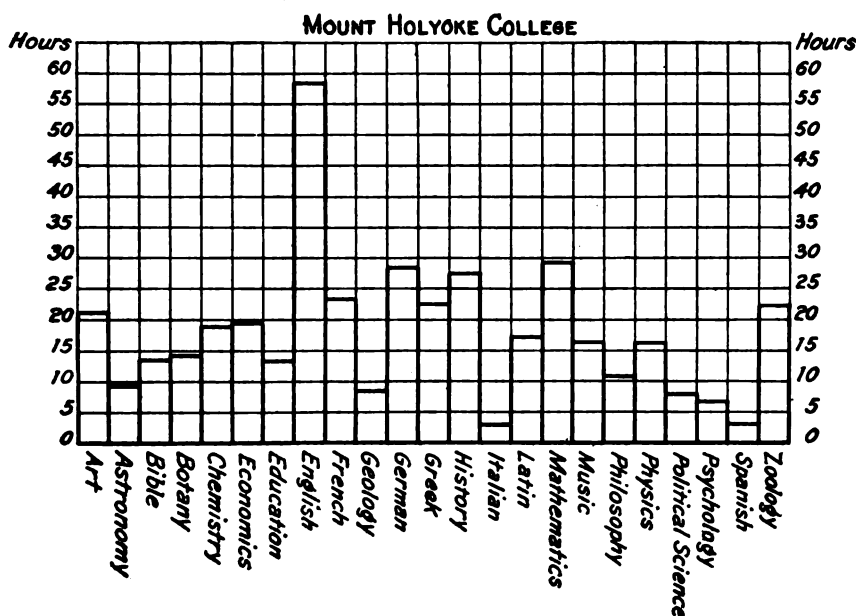


FIG. 3.—Number of hours given to subjects common to the five colleges.

Since, on the other hand, semester totals give no adequate notion of the actual number of hours devoted to the courses of a department, the department measure by semesters has been checked up by a count of the number of hours offered by each department. The totals in hours of work offered show the colleges in the following order: Radcliffe, 656 hours; Barnard, 528 hours; Wellesley, 475½ hours; Mount Holyoke, 404 hours; Vassar, 395 hours. This changes Wellesley from the least number of semester courses to third in number of hours.

Considerable variation exists as to the number of hours offered by the departments of the colleges. Extreme emphasis is obvious at Radcliffe in the department of economics, which offers 19½ hours more than any other college, in German and education, which

10½ hours in advance of the other colleges, and in mathematics, which is 38 hours ahead. The emphasis at Barnard is in the department of geology, which offers 12 more hours than any other college; in psychology, which is 16½ hours in advance; and in anthropology, which offers 24 hours more than Radcliffe, the only other college to support such a department; at Wellesley and Mount Holyoke in the departments of Bible. Vassar shows a very small department of botany, and has no education department, offering but two education courses in the department of philosophy.

The selection of the departments for special analysis was made to include, first, the courses usually prescribed for a B. A.; second, the departments offering the largest average number of hours in the curriculum; third, the departments from which the greatest amount of work is elected. The following departments seem to justify such a choice: English, history, zoology, German, Latin, mathematics, chemistry, philosophy, and psychology. The departments of English, history, zoology, and German are analyzed in detail as representative centers of election. The method of analysis is by a description of the courses and the teaching force of the department in each college, and by comparative tables showing the relative amount of work offered and the relative strength of the teaching force of the five colleges.

The departments of Latin, mathematics, chemistry, philosophy, and psychology are analyzed in a comparative way only, because, though required for a degree, they are less largely elected than those of the first group.

#### THE REQUIREMENTS FOR THE B. A. DEGREE.

The appended table of the requirements for the B. A. degree in the five colleges brings out the following points: Mount Holyoke prescribes the largest number of hours of work; Barnard prescribes the greatest number of subjects to be studied; Radcliffe prescribes the least work, and makes it possible by examination to avoid any prescription. Counting out Radcliffe, the other colleges agree in the prescription of the following subjects: English composition, mathematics, Latin or Greek, German or French, philosophy. Wellesley and Mount Holyoke are the only colleges to prescribe Bible.

At Vassar and at Wellesley the unit of time is the hour; that is, one class appointment a week for a year counts as one hour. Vassar requires 56 hours for the degree A. B., and Wellesley requires 59 hours. At Mount Holyoke the unit is the semester hour; 120 hours are required for the degree. At Radcliffe the work is arranged in courses and half-courses, which are evaluated regardless of hours by the work actually required, and which count as full or half courses



toward the 17 courses required for the degree A. B. At Barnard the courses are valued in points, the term point signifying one hour a week of class attendance or two hours in a laboratory for one half year; 124 points are required for the degree A. B.

To secure some basis of uniformity in the comparative work which follows, the "year" hour of Vassar and Wellesley has been used as the unit. At Radcliffe, the number of hours which the catalogue announces for the meetings of each course is used to give the hour value of full and half courses. At Barnard the points, and at Mount Holyoke the semester hours have been reduced to the hour of the year.

The choice of the subjects of common prescription appears from the history of the development of the curriculum to be derived from two sources. First, because such subjects offered disciplinary training.

The prescribed part of the course embraces a due proportion of those strictly disciplinary branches which, when left to the option of the student, are almost always either wholly neglected or so slightly studied as to be useless but which, if thoroughly taught, experience proves to be the best possible preparation for advanced studies in science, literature, or philosophy.<sup>1</sup>

Second, because, except at Barnard and Radcliffe, the colleges were founded especially to supply the teaching profession, which demanded teachers for the subjects required for admission to college. At the present time, although the theory of the value of formal discipline has been experimentally controverted, and although women are entering many fields other than that of teaching, the old order of prescription is still followed. The newer demands upon women for intelligent citizenship are recognized by prescribed work only in the course of economics required at Barnard.

Since there is no uniformity in the degrees offered other than A. B. by the different colleges, no comparison is possible, and they are simply listed. Wellesley and Radcliffe offer the degree, associate of arts; Barnard grants the degree of bachelor of architecture through transfer to the school of architecture, of bachelor of literature through transfer to the school of journalism, and makes it possible for seniors to elect courses in the school of education of Columbia University, which may later be credited toward the degree master of arts.

Vassar, Wellesley, and Mount Holyoke all grant the degree of master of arts. Radcliffe offers the degrees bachelor of arts, master of arts, associate of arts, and doctor of philosophy.

Barnard and Radcliffe, through their affiliations with Columbia and Harvard, offer greater opportunities for specialized and for advanced work than do any of the other colleges.

<sup>1</sup> Raymond, John Howard. Vassar College, 1873.

*Hours required for the B. A. degree in 1915-16.*

Subjects.	Vassar.	Wellesley.	Radcliffe.	Barnard. <sup>1</sup>	Mount Holyoke. <sup>2</sup>
History.....	3	3 4		3 (6 points).....	4 6
English composition.....	3	3	3	do.....	9
Mathematics.....	3	3		do.....	6
Latin or Greek.....	3			do.....	6
French or German.....	3 3	3 3	3	do..... <sup>(3)</sup>	3 6
Physics or chemistry.....	10 3	11 6		3 (6 points).....	6
A second natural science.....		3		do.....	6
Philosophy.....	3	3		do.....	12 6
Hygiene.....	12 6	2		2 (4 points).....	4
Economics.....				3 (6 points).....	6
English literature.....				do.....	

<sup>1</sup> A point equals one hour of class work or two hours of laboratory work for one-half year.

<sup>2</sup> Semester hours.

<sup>3</sup> Biblical history.

<sup>4</sup> And six of Biblical literature.

<sup>5</sup> Possible exemption by examination.

<sup>6</sup> Unless a third is presented at admission.

<sup>7</sup> Exemption if presented at admission.

<sup>8</sup> Working knowledge required.

<sup>9</sup> Greek, French, or German.

<sup>10</sup> Vassar requires 3 hours of French, German, physics, or chemistry; not of two of them.

<sup>11</sup> Natural science, if not presented at admission.

<sup>12</sup> Philosophy and psychology.

<sup>13</sup> Six lectures.

*Requirements for distribution of electives.*—Vassar: No system of majors. Wellesley: One to nine hours in each of two departments; 2 to 12 in one department and 6 in second. Radcliffe: Group system. Barnard: Major subject of at least 18 points (9 hours), exclusive of prescribed work. Mount Holyoke: Two major subjects of 15 semester hours each.

*Requirements for distribution of required studies.*—Vassar: During first two years; exception, philosophy, junior year. Wellesley: During first two years; exceptions, two hours Biblical history, junior year, and philosophy, before senior year. Radcliffe: During freshman year. Barnard: During first two years; exception, economics, junior year. Mount Holyoke: During first three years.

#### ENGLISH.

The English department has always occupied an important place in the curriculum of the woman's college. Even in the original courses of study, when the emphasis was laid upon the classics, mathematics, and the modern languages, English had its place. From the composition being taught by exercises in grammatical analysis and from Whately's Rhetoric, and the literature from Shaw's Manual of English Literature,<sup>1</sup> the work has developed to its present prominent status in the college. A striking specialization by the women's colleges in English departments has been noted by Thorndike and by Dealey.<sup>2</sup> A present study of the catalogues of the colleges for women indicates that the department of English offers the largest amount of work in the college in terms of semester courses.

<sup>1</sup> Course of Study, Vassar, 1867-68.

<sup>2</sup> Comparative study of the curricula. H. L. Dealey, p. 347.

The composition departments agree in the prescription of a certain amount of training in writing, and most of them try to secure that training by cooperation with the other departments in the college. The greatest variation in the colleges appears in the further development of the writing courses. The advanced work shows a tendency toward specialization, an effort to encourage the kind of creative work to which the student is especially adapted. The result at Vassar is special courses on descriptive writing, short-story writing, and journalism; at Radcliffe, courses in the drama; at Barnard, the courses of the school of journalism; and at Mount Holyoke, courses in narrative writing, description, and verse composition. Wellesley offers little opportunity for specialization, since the advanced courses are inclusive of all forms of writing.

The significance of specialization in advanced courses lies partly in the connection of the work of the student within the college with that which lies beyond it. Such a double adjustment of the course work of the student points toward a new criterion of the value of the content of courses which may prove an interesting factor in the creation of the future curriculum of the college.

*Courses and instructors in English.*

COMPOSITION.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	5 (3-hour) 1 (1-hour)	4 (3-hour) 2 (2-hour) 1 (1-hour)	5 (3-hour)	5 (6-point)	1 (3-hour) 1 (1-hour)
Semester courses.....	2 (3-hour)	0	0	1 (3-point)	12 (3-hour) 1 (1-hour) <sup>1</sup>
Hours.....	19	17	15	16½	22
Teachers.....	11	12	5	8	8
Professors.....	0	2	2	2	1
Associate professors.....	0	2	0	0	1
Assistant professors.....	2	0	1	0	0
Instructors.....	9	8	2	6	6
Doctors' degrees.....	3	3	1	1	0

LITERATURE.

Year courses.....	8 (3-hour)	13 (3-hour) 2 (1-hour)	7 (3-hour)	7 (6-point) 2 (4-point)	1 (3-hour)
Semester courses.....	5 (3-hour)	2 (3-hour)	9 (3-hour) 2 (2-hour)	5 (3-point)	16 (3-hour) 1 (2-hour) 1 (1 hour)
Hours.....	31½	44	36½	32½	28½
Teachers.....	9	9	11	12	6
Professors.....	1	2	5	6	0
Associate professors.....	2	3	0	0	1
Assistant professors.....					
Instructors.....	6	13	6	6	5
Doctors' degrees.....	6	2	16	6	1

<sup>1</sup> 1 assistant.

<sup>2</sup> In addition, 9½ hours of comparative literature.

Specialization of courses, which the interests of the students appear to be forcing, means provision for students of talent for whom there is little provision where general courses only are given. It may, on the other hand, signify little opportunity for extensive work, leading to specialization too detailed and technical for undergraduate teaching.

An effort is being made to keep track of the permanent quality of the student's English work. At Barnard, for example, any instructor may report to the English department a student as deficient in English. The department then has the responsibility of investigating the student's case. At Wellesley, if a student is deficient in English even in her senior year she is not permitted to graduate until such deficiency is removed. Such reports are for all students irrespective of their connection with the English department. At Vassar a movement is on foot toward a like systematized correlation of the English with the other work.

The interpretation of this tendency is that English composition is coming to be regarded as a training in clear thinking and correct expression which may be used as a tool by all of the departments.

The table shows a variation in the number of teachers in the composition departments of the different colleges. Such a variation is explained here as in other departments not so much by the number of courses offered as by the number of divisions necessary to handle the required introductory course. To illustrate, Wellesley requires ten and Vassar eight teachers for the introductory course which at Radcliffe is given by one professor and his assistant.

The character of the teaching force of the composition department shows certain peculiarities. The following percentages of the teachers are of the grade instructor: At Vassar, 81 per cent; at Wellesley, 66 per cent; at Radcliffe, 40 per cent; at Barnard, 75 per cent; at Mount Holyoke, 75 per cent; that is, except at Radcliffe, the greater part of the teaching is conducted by instructors.

The scarcity of the doctor's degree in the English composition departments of any of the colleges is probably due not only to the large percentage of instructors on the teaching force but to the fact that ability to produce or to stimulate creative work is the quality particularly stressed in the teacher of composition.

The department of literature is entirely separate from the department of composition at Wellesley and at Mount Holyoke only. At Vassar, Radcliffe, and Barnard the department of English includes both divisions, and members of the faculty teach both branches. At Barnard, three hours, and at Mount Holyoke, six semester-hours, of literature are required for a degree. At all of the colleges except Radcliffe an introductory course consisting largely of an historical outline of English literature is a prerequisite of all advanced work.

While such a course permits the student a certain degree of orientation before specialization, it in no way gives her any information with the parallel literature outside of England, except as she may be studying it in modern language courses. Comparative literature is offered only at Radcliffe. No opportunity for acquaintance with ancient literature is offered, except as the student elects the classics. A possible consideration for the increasingly large proportion of students who do not elect Latin or Greek might be a literature course which would include translations of the classics. The excuse for locating such courses in the English department is obviously as a means of the interpretation and evaluation of the English literature.

At the other chronological extreme American literature is dealt with in all of the colleges to the extent of one course each with the addition at Radcliffe and Wellesley of a course each which deals with America and England both.

At Radcliffe and Mount Holyoke the arrangement of the courses in semesters is used to a greater degree than at the other colleges, where full-year courses predominate. When full-year courses are devoted to individual writers, not much literature is possible for the general student. The period basis, as we have seen in the special analyses, is followed to some degree by all of the colleges.

The teaching of literature at Vassar, Wellesley, and Barnard is in a greater degree in the hands of professors and associate professors than is composition. The following percentages of the teachers are of the grade instructor: At Vassar, 66 per cent; at Wellesley, 44 per cent; at Radcliffe, 54 per cent; at Barnard, 50 per cent; at Mount Holyoke, 83 per cent.

The doctor's degree is much more common among the members of the literature department than among those of the composition department.

Of the number of hours in English offered by the five colleges, Mount Holyoke leads in composition, the other colleges following in the order of Vassar, Wellesley, Barnard, and Radcliffe. In literature Wellesley offers the largest number of hours, the other colleges following in the order of Radcliffe, Vassar, Barnard, and Mount Holyoke.

#### VASSAR.

At Vassar the English composition and literature departments are not separated, five of the members of the faculty giving courses in both branches.

In the composition work Course 1 covers the required three hours of the freshman year. It is a study of prose selections with writing of themes. The method is based upon a textbook, Buck and ~~bridge~~ bridge's "Course in Expository Writing."

In the elective courses narrative writing, critical writing, and descriptive writing are dealt with in separate courses, followed by a full course in advanced composition. Argumentation has a year course and a semester course allotted to it.

By this arrangement the student has a full course in the analysis of the short story with practice in writing it; a full course in journalistic writing, and a semester course for practice in the various forms of descriptive writing. Vassar devotes more time to argumentation than the other four colleges.

*English at Vassar.*

	Composition.	Literature.	Spoken.
Year courses.....	5 (3-hour). 1 (1-hour).	8 (3-hour).	13
Semester courses.....	2 (3-hour).	5 (3-hour).	
Hours.....	19	31½	
Teachers.....	11	9	2
Professors.....	0	1	
Associate professors.....	0	2	
Assistant professors.....	2	0	
Instructors.....	9	6	2
Doctor's degree.....	3	6	

<sup>1</sup> Courses not counted toward the degree.

A course which has significance for both composition and literature is that of literary criticism which alternates with the poetic courses.

A general introductory course is required as preliminary to all the other courses in literature. It deals with the development of English literature from Beowulf to Johnson. Following it, the periods are dealt with as follows:

Old English.....	3-hour semester course.
Middle English.....	3-hour year course.
Middle English romances.....	3-hour year course.
Nineteenth century poetry.....	3-hour year course.
Nineteenth century prose.....	3-hour year course.
Later Victorian poetry.....	3-hour semester course.
American literature.....	3-hour year course.
The classic and romantic movement.....	3-hour year course.

Special writers are dealt with in courses on Beowulf, Chaucer, and Shakespeare, to the study of whom two courses are given.

At Vassar, while nineteenth century literature, both prose and poetry, is dealt with thoroughly, the only opportunity for study of eighteenth century literature appears in the course which includes both the classic and the romantic movements and which begins with Spenser. The sixteenth and seventeenth centuries are covered by the course called Shakespeare and his age. The work, as may be readily seen, is offered largely on the period basis.

WELLESLEY.

At Wellesley College the departments of English composition, literature, language, and reading and speaking are quite separate, each with a different head and a separate faculty, with the exception of one member of the composition department and the two members of the language department, who have work in the other departments.

All courses at Wellesley are classified in Grades I, II, III; Grade I including elementary courses and Grade III the most advanced courses. According to this classification, the English composition department offers one Grade I course, three Grade II courses, and three Grade III courses.

The general prescribed course, as at Vassar and Radcliffe, is a three-hour course for the year. Ten members of the faculty teach it, each having entire charge of one or more divisions for the class work, the theme reading, and the conferences. The work is outlined closely enough to keep the different divisions practically parallel. Weekly themes are required the first semester, and fortnightly themes the second.

*English at Wellesley.*

	Composition.	Literature.	Spoken.	Language.
Year courses .....	4 (3-hour) 2 (2-hour) 1 (1-hour)	13 (3-hour) 2 (1-hour)	1 (3-hour) 2 (2-hour)	2 (3-hour)
Semester courses .....	0	2 (3-hour)		
Hours.....	17	44	7	6
Teachers.....	12	9	3	2
Professors.....	2	2	1	1
Associate professors.....	2	3		1
Instructors.....	8	13	2	

<sup>1</sup> One assistant.

Course 2 of argumentation will not be offered after the year 1915-16. It represents the second course formerly required for a degree. Two other full elective courses on argumentation seem, however, to supply sufficient training.

The Grade III courses offered by the composition department are as follows:

Long and short themes; a general course in writing which includes the critical study of one novel at least. Two-hour year course.

The theory and history of criticism; a lecture course dealing with the critical theory of Plato and Aristotle, and with English and French critics. One-hour year course.

Advanced course in English composition; a general writing course including studies in structure and style.

Classified by grades, the literature department offers one Grade I course, seven Grade II courses, with a 1-hour course in addition, seven Grade III courses, with a 1-hour course in addition. With the above exceptions of 1-hour courses, the rest are 3-hour courses. Nine teachers conduct the work.

As at Radcliffe and Vassar, a general course is given on the development of English literature, and as at Vassar but not at Radcliffe, this course is prerequisite to all other courses in the department. The course is sometimes passed off by examination.

Courses based on periods rather than special writers are:

American literature.....	3-hour year course.
English literature of the fourteenth century.....	3-hour year course.
English lyric poetry of the sixteenth and seventeenth centuries.....	3-hour year course.
Beginnings of the English Renaissance from Caxton to Spenser.....	3-hour year course.
Victorian prose.....	3-hour year course.
English poetry of the nineteenth century.....	3-hour year course.
Historical development of English literature.....	3-hour year course.
Tendencies of twentieth century poetry.....	1-hour year course.

Less emphasis is placed on the eighteenth century literature than at Radcliffe and more on the modern.

Special writers are dealt with in courses on:

Milton.....	3-hour year course.
Spenser.....	3-hour semester course.
English drama through Shakespeare.....	3-hour year course.
Modern authors. (Two each year.).....	3-hour year course.
English masterpieces.....	3-hour year course.

A course on the Arthurian Romance, a 3-hour year course, and a 1-hour year course in poetics are also offered. A course called Critical Studies in English Drama, three hours for the year, aims to give graduate training in literary investigation.

The English language department is devoted to the study of Old and Middle English. It offers in 1915-16, a course in the History of the English Language, and a seminar for the study of Old English. Both are 3-hour courses for the year, of Grade III. In none of the other colleges are these language courses separated from the English department.

Spoken English at Wellesley is called reading and speaking, and has no connection with any branch of the English department. It consists of one Grade I course of two hours, one Grade II course of three hours, and one of two hours. The first two courses are given to training of the body and voice, and the third to the interpretation of Shakespeare. Unlike Vassar, the courses at Wellesley count toward a degree.



RADCLIFFE.

At Radcliffe, in all of the departments, the courses are classified primarily for undergraduates, for undergraduates or graduates, and primarily for graduates. Between the groups there is, however, no strict division line, the only restriction being that courses primarily for undergraduates shall not count toward the M. A., and that undergraduates are to be admitted to courses primarily for graduates only on recommendation of the instructor. This generous provision allows the able student great freedom of choice in courses and makes it possible for her to accomplish nearly, if not quite, the work required for both A. B. and A. M., in four years.

English at Radcliffe includes without separation into departments composition, literature, and spoken English. "Study of literature forms a part of nearly every course in English composition, and practice in composition forms a part of many of the courses in English literature." Members of the faculty sometimes teach both composition and literature. The courses of comparative literature are grouped into a separate department.

*English at Radcliffe.*

	Composition.	Literature.	Spoken.	Comparative.
Year courses .....	5 (3-hour.)	7 (3-hour.)	2 (2-hour, halfcourses.)	2 (3-hour.)
Semester courses .....	0	9 (3-hour.) 2 (2-hour.)		1 (3-hour.) 2 (2-hour.)
Hours .....	15	36½	4	9½
Teachers .....	5	11	1	4
Professors .....	2	5		1
Associate professors .....			1	
Assistant professors .....	1		0	2
Instructors .....	1	6		1
Doctors' degrees .....	1	6		1

The only prescribed work at Radcliffe is a three-hour course of rhetoric and English composition; an introductory course in the theory and practice of English composition, both oral and written. The theory is taught by lectures, recitations, and readings, the practice by the writing of themes which are criticized and rewritten. Short daily themes and longer periodical papers are required of the student.

This prescribed course may be anticipated by examination. For the freshmen who have anticipated it by the grade A or B, the course called English composition is primarily intended. It is conducted in much the manner of the prescribed course, but deals with a selected group of students.

The instructor in charge of the undergraduate composition courses, which are usually large at Radcliffe, gives the lectures. themes are criticized and marked by assistants who hold conf

with the students concerning them. The assistant selects themes indicative of significant failure or success for the professor in charge who presents them to the class with personal comment and criticism. According to this plan much of the individual teaching is done by the assistant and much of the evaluation of the student's work is left to his judgment. On the other hand, the student has the stimulus of general and sometimes individual comment and suggestion from the expert whose time must necessarily be saved by readers.

A third English composition course, a three-hour year course, is limited to 20 students and is especially intended for graduates who already write well and for undergraduates who have attained distinction in English 12, which, though not offered in 1915-16, is a course usually given to students showing ability. The prerequisite, then, for the more advanced composition courses is demonstrated ability to write.

The two other composition courses deal with the technique of the drama and are arranged on the same basis, that of value placed on actual work accomplished, the second open only to those who have taken the first with distinction. The first of these drama courses, which are given by Prof. Baker, is limited to a dozen and is primarily for graduates. Candidates make application by submitting an original play of one or more acts. The lectures of the course treat of the relation of the play to the novel and short story, the principles of adaptation, plotting, structure, characterization, climax and suspense, and dialogue, and the making of scenarios. Three plays are required of each student. The second drama course is an advanced course of lectures and practice. With the consent of the instructor it may be counted for more than one course, thus making provision for students who give evidence of talent enough to warrant extra-time adjustment.

The work in dramatic composition at Harvard and Radcliffe has been stimulated by the offer of two awards, the MacDowell Resident Fellowship of \$600, and the Craig prize of \$300, the latter including a production of the successful play. The fellowship and the prize have been awarded since 1910, each twice to Radcliffe students whose plays were produced with considerable success.

The subject argumentation to which much attention is given in the other colleges is omitted entirely.

While the literature courses are classified in the usual manner, the line of demarcation is slight and undergraduates capable of good work are admitted to courses primarily for graduates. No courses are required and none has a prerequisite except early English, which is open only to those who are acquainted with Anglo-Saxon.

Of the 26½ courses offered by the literature department, 17 are open in 1915-16. The method of alternation of courses permits this

work to be kept in the hands of some of the best men of Harvard's staff, who, too busy to give all of the courses each year, would otherwise have to delegate them to assistants.

The general introductory course, primarily for undergraduates, is designed to trace the main historical development of English literature from earliest times to the present day. (Three-hour year course.)

The story of King Arthur, an undergraduate course, deals with the development of the Arthurian legends in English, and gives a brief history of their origin. (Three-hour semester course.)

Of the more advanced courses, those devoted chiefly to study and interpretation of the text include the three-hour year courses of Chaucer and of Shakespeare, and the three-hour semester courses of Anglo-Saxon, Beowulf, Bacon, and Milton. Of these, the course given by Prof. Kittredge on Shakespeare may be taken in two successive years, six plays being studied each year.

The courses dealing with specific periods rather than with a special writer of a period are:

**Full courses:**

Early English. From 1200 to 1450.

The drama from 1642 to the present day.

**Half courses:**

Studies in seventeenth century prose.

Life and works of Pope.

Eighteenth century periodicals.

Eighteenth century sentimentalists and their opponents.

English literature in the period of the Romantic movement.

The courses are conducted by lectures. Reading is assigned to the students, who make written reports of any phase which proves especially interesting to them.

English 20 consists of courses of research in which the instructors in English hold themselves ready to assist and advise competent graduate students who may propose plans of special study in the English language or literature. The number of these courses varies according to the demands of the graduate students and in subjects according to their special interests.

Of the courses in comparative literature, the first, a three-hour course for the year, offers a general survey of the history of literature in Europe from its origin in classic times to the present day. It emphasizes the writers, the subjects, and the influences which have survived in conscious tradition. The course is conducted by lectures and reading, when possible, in the original language. The courses dealing with specific periods are as follows:

Full course: Literature of the Renaissance.

Half course: Goethe's *Faust*, with a study of kindred dramas in J literature.

Half course: The dramatic works of Grillparzer, considered in their relations to European literature.

Half course: German literature in the sixteenth century and its relation to European literature.

#### BARNARD.

At Barnard the department of English as at Radcliffe includes all of the courses given in composition, literature, and elocution. All but one of the instructors of composition give courses in literature also. The courses are all undergraduate courses, and their value is indicated by points. Two points are practically equivalent to one year-hour. Many of the year courses are regarded as divisible courses, the first half of which may be taken separately.

#### *English at Barnard.*

	Composition.	Literature.	Spoken.
Year courses.....	5 (6-point.)	7 (6-point.) 2 (4-point.)	1 (4-point.)
Semester courses.....	1 (3-point.)	5 (3-point.)	.....
Hours.....	16½	32½	2
Teachers <sup>1</sup> .....	8	12	1
Professors.....	2	6	1
Instructors.....	6	6	.....
Doctors' degrees.....	1	*6	.....

<sup>1</sup> All but one teach literature.

\*4 Ph. D., 1 Litt. D., 1 LL. D

All freshmen are required to take a 6-point composition course for the year. It is given by seven members of the department, and it consists of oral and written exposition, argument, description, and narrative. No special courses in argumentation are given as at Vassar and Wellesley.

The sophomore requirement of a 6-point course may be met by any one of several courses, the student being allowed a freedom of choice regulated by her proficiency or aptitude in freshman English. She may go on writing or elect work in literature from the following courses: Epic and romance; essay and poetry; survey of English literature; composition; journalistic writing; drama.

Beyond this group the courses are elective. Within the group, "Journalistic writing," and of the advanced courses, "The survey of American literature," are required of students who intend to transfer to the school of journalism.

The advanced work in composition consists of one 6-point course devoted to theme writing and one 3-point semester course in story writing or play writing with collateral reading.

The especial periods dealt with by advanced courses are as follows: Survey of American literature, 4-point year course; English poetry from 1550 to 1625, 3-point semester course; English poetry from 1625

to Wordsworth, 3-point semester course; English Victorian literature, 6-point year course.

Courses laying stress on study and interpretation of text are: Old and middle English and Chaucer.

Special writers are treated in courses on Shakespeare, and Dr. Johnson and his circle.

In addition, a semester course of a survey of romances and ballads touches upon literature of the continent as well as of England, though in no sense is it comparative literature; also a course of English prose, including fiction, is offered.

MOUNT HOLYOKE.

At Mount Holyoke, 15 semester hours or 7½ year hours of English are required as against 3 at Vassar, Wellesley, and Radcliffe, and 6 at Barnard. Of the 9 semester hours of composition, 6 are prescribed in the two courses which are introductory to composition and to vocal expression. The introductory composition places special emphasis on the writing of exposition. It is conducted by a method of outlining; the student reads prescribed books and analyses them by outlining their content. At Mount Holyoke, as at none of the other colleges, work in vocal expression is required as a part of the prescribed course. Once in two weeks each division of freshman English meets for work in voice training. The vocal expression work is given a regular place in the English curriculum in addition to the freshman work, and consists of three advanced courses.

*English at Mount Holyoke.*

	Composition.	Literature.	Spoken.
Year courses.....	1 (3-hour) 1 (1-hour)	1 (3-hour)	1 (3-hour)
Semester courses.....	12 (3-hour) 1 (1-hour)	16 (3-hour) 1 (2-hour) 1 (1-hour)	1 (3-hour) 1 (2-hour) 1 (1-hour)
Hours.....	22½	28½	6
Teachers.....	8	6	.....
Professors.....	1	0	0
Associate professors.....	1	1	1 1
Instructors.....	6	5	.....

½ Included in composition.

As at Wellesley the composition department is separated from the literature department, each having its own faculty. Mount Holyoke offers the largest number of hours of composition of any of the five colleges. With the exception of Vassar, which offers two semester courses, and of Barnard, which offers one semester course, the composition work of the other four colleges is arranged in year ~~courses~~. Mount Holyoke, however, offers 13 semester courses and (

year courses. This arrangement permits a great variety in subjects of courses. Argumentation is given a special course as at Vassar and at Wellesley. To theme writing two semesters are devoted, and to general writing one semester; a semester of debating is offered. The specialized composition work to which the rest of the semester courses are devoted is as follows: Descriptive writing; narrative writing; verse forms; verse composition; structure of the drama and the novel; prose style. One semester is given to literary criticism and one to the history of the English language. The department also has a press club, which includes all newspaper correspondents.

Mount Holyoke, thus, has attained a considerable degree of specialization. It is a question whether with so complete a division of the work into semester subjects any sustained or intensive writing can be accomplished.

Eight teachers, including the one teacher of vocal expression, conduct the work of the composition department. Of these six are instructors and none possesses the doctor's degree.

Although the literature courses are divided into semester courses almost as completely as the composition courses, they do not present as great a variety of subjects. Nineteen courses are offered on 15 subjects, a second semester course sometimes being the sequel of a first semester course.

The department requires a course called "an historical outline of English literature," much like the course given at Wellesley. Substitution of other courses may, however, be arranged.

The courses, all in three-hour semester courses, dealing with specific periods, are as follows:

Middle English, from 1,200 to 1,400. Special attention to the English metrical romances.

Elizabethan nondramatic literature.

Elizabethan drama.

Eighteenth century literature, first half of the century.

Eighteenth century literature, from death of Pope to 1800.

Nineteenth century prose, two semesters.

Nineteenth century poetry, two semesters.

Nineteenth century novel, two semesters.

American literature.

Two semesters of old English are given, one of which is devoted to Beowulf, Chaucer, Shakespeare, and Milton; each receives a one-semester course. A semester is given to English and Scottish popular ballads. A seminar, which has a prerequisite of four courses exclusive of the introductory course, is devoted to the history of English literature.

The work of the literature department is conducted by six teachers, five of whom are instructors and one of whom possesses the doctor's degree.

ZOOLOGY.

Zoology, as representative of the elective natural science work of the college, is chosen for analysis because of its rapid development, its practical possibilities, and because it is largely elected in the colleges. Miss Dealey finds that from a comparative standpoint with regard to the science departments of chemistry, physics, zoology, botany, geology, and astronomy, the largest amount is taken in the department of zoology at Vassar, Wellesley, and Smith.<sup>1</sup>

Both Vassar and Wellesley were founded soon after the great impetus given to the laboratory method of studying zoology by Louis Agassiz. The summer school which he founded at Penikese in 1872 had profound influence on the development of the study of zoology. Among the students was the present head of the department of zoology at Mount Holyoke, and from his school biologists scattered all over the country to bring into use the laboratory method.

*Courses and instructors in zoology.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	2 (3-hour)	5 (3-hour)	5 (3-hour)	1 (12-point) 2 (8-point) 2 (4-point)	2 (3-hour)
Semester courses.....	3 (3-hour) 2 (2-hour)	2 (3-hour)	8 (3-hour) 1 (2-hour)	2 (2-point)	11 (3-hour)
Hours.....	12½	18	28	19	22½
Teachers.....	a 5	6	6	5	8
Professors.....	1	1	2	2	2
Associate professors.....	1	2	0	0	1
Assistant professors.....	0	0	2	0	0
Instructors.....	3	3	2	b 2	b 4
Doctors' degrees.....	2	5	4	3	3

a 1 in botany.

b 1 assistant.

Vassar opened with a department of natural history which included zoology, and a museum of zoology and botany which was "not for curiosity or display."<sup>2</sup> Wellesley's circular for 1876 announced electives in zoology for juniors and seniors. To Radcliffe and Barnard both, the departments of botany were opened the first year and the departments of zoology the second. Mt. Holyoke's college curriculum appearing as late as 1888 naturally included a well-developed course of zoology.

From general natural history courses, the work has become sharply defined into specialized courses, dealing intensively with different phases of the subject.

Two of the colleges, Radcliffe and Barnard, now offer outside of any special department an introductory course surveying most of the sciences, to afford the student a basis for making an intelligent

<sup>1</sup> Dealey, H. L. Comparative Study of the Curricula, p. 861.

<sup>2</sup> Prospectus, 1865, p. 28.

choice of subject. In addition, these colleges also offer the usual introductory course in the zoology department.

The content of this introductory course has always been much debated. Whether the unskilled beginner gains more from a course which deals with a type with which he is fairly familiar, as crayfish or frog, or whether he should at once begin work with the microscope on the protozoa and advance gradually to the more complex forms is one of the questions which causes disagreement among teachers of zoology. Although no one of the colleges has probably reached a final decision as to a course which is the best basis for further work, the present introductory courses reflect the different points of view of the individual colleges. A brief comparison will serve to indicate the points of agreement and disagreement concerning the introductory course in the five colleges.

At Vassar the course begins with detailed study of the frog. The rest of the semester is spent on lobster. The only microscopic work consists of brief inserts of the study of amoeba and green plant cells for physiological purposes. The second semester, which may be taken independently and which is not prerequisite for much of the advanced work, consists of the usual series of invertebrates taken in order as type forms. Yeast and bacteria, however, precede the protozoa.

At Wellesley the course is not divided. Like Vassar, it begins with the frog, dealing next, however, with the bird; then, starting with the microscopic work on the protozoa, the course presents the invertebrate series of type forms.

Radcliffe begins at once with microscopic work on the protozoa, working up to a detailed study of the frog in one semester. The second half year of genetics and eugenics is unessential to further election.

At Barnard the course deals first with microscopic study of cells and protoplasm. The earthworm is then taken as a type animal; a day is given to fern for comparison, and then the usual series of type forms of invertebrates are presented, beginning with protozoa. The second half of the year deals with vertebrates in the order of amphioxus, dogfish, frog, and rabbit.

Mount Holyoke, like Radcliffe, begins the course with microscopic work on protozoa, working up through type forms to the oyster and clam in the first semester. The second semester is devoted to insects, lamprey, fish, frog, and demonstrations of mammals.

Thus Vassar and Wellesley start with large familiar forms, later dealing with the simple microscopic forms. Radcliffe, Barnard, and Mount Holyoke deal at once with microscopic work, though Barnard does not continue to study the invertebrates in logical sequence as do Radcliffe and Mount Holyoke.



At Wellesley only are juniors and seniors debarred from the elementary course. At the other four colleges the course is open to all students, thus enabling a student who desires a general zoology course to elect it during any college year.

All of the colleges make some provision for dealing with the theoretical aspects of zoology in some part of the beginning work, usually by lectures on phases of evolution. Advanced work of philosophical or theoretical content follows later. In its bearings on the problems of the human race, such work is of great importance to the student and is emphasized with advantage in the introductory course.

Although a natural science is prescribed by all of the colleges, the particular science of zoology is elective throughout. The severity and kind of prerequisite for advanced work vary in the different colleges. At Vassar the completion of one semester of the introductory course serves to admit the student to all but one of the courses following it. At Wellesley the completion of the introductory course and the year course following are essential to all of the advanced work. At Radcliffe the ability of the individual student largely determines the courses open to her. Certain courses are the preparation for following courses, but an equivalent is always accepted. At Barnard the introductory course opens to the student only two semester courses, while for further work a semester of vertebrate anatomy is necessary.

Part of the significance of the amount of prerequisite work lies in the provision it makes for students who do not wish to be scientists, but who desire to elect more than an introductory course. A prerequisite of two years is likely to deter a student who is not specializing in that department.

Courses in physiology are variously distributed in the department of zoology, in the department of physiology and hygiene, which may or may not include the gymnasium work, and in a special department of physiology. At Vassar a year of advanced physiology is given without prerequisites in the department of physiology and hygiene. Wellesley and Barnard each includes a course in the zoology department, the former requiring for admission the second year vertebrate anatomy course, the latter the introductory course. Radcliffe gives only a course in elementary anatomy and physiology. A special branch of the department of zoology at Mount Holyoke offers two years of physiology with a prerequisite of chemistry. Except at Radcliffe, all of the colleges require the freshmen to attend lectures upon hygiene.

All of the colleges offer courses in embryology, cytology, histology, and theoretical zoology, besides the work on invertebrates and ~~vertebrates~~ brates. Variation is most noticeable in the courses which have practical bearings. Of these there are two kinds, courses in

history, in which the student becomes familiar with the ecological aspect of zoology and learns how to collect her own material, and courses in the technique of preparation of microscopic material.

Wellesley, Radcliffe, and Mount Holyoke offer a semester course on insects; Wellesley and Mount Holyoke offer also a semester on the natural history of animals and in addition include field work on the birds in their introductory course. Vassar and Barnard offer no natural-history work. Training in technique is specially provided for at Barnard and at Mount Holyoke. At the other three colleges work in microscopic technique is included in the laboratory exercises of other courses. The special provision has significance for those students who wish to do research work or teaching.

In none of the colleges is the kind of application of the work to practical problems made as it is at Reed College, Portland, Oreg., where the students run the experiments of the State fish hatchery, assist in the city antitify campaign, supervise the biological books of the public library, accompany the State forester in the summer, and publish considerable scientific material. The work of Reed College points the way toward a possible useful expansion of the department of zoology in the college.

An analysis of the teaching force shows the following percentages of the teachers to be of the grade instructor: At Vassar, 60 per cent; at Wellesley, 50 per cent; at Radcliffe, 33 per cent; at Barnard, 60 per cent; at Mount Holyoke, 62 per cent. At Radcliffe the courses are given to the greatest degree by teachers of professorial rank.

Of the teachers the following percentages possess the doctor's degree: At Vassar, 40 per cent; at Wellesley, 83 per cent; at Radcliffe, 66 per cent; at Barnard, 60 per cent; at Mount Holyoke, 37 per cent; a comparison which shows Wellesley in the lead.

#### VASSAR.

At Vassar College zoology and botany are grouped in the same department, and though the courses are kept entirely separate, the cooperation is so close that one instructor teaches both subjects.

At Vassar a year course of three hours called animal biology is made the foundation for further work. Either the entire course or the first semester of it is a prerequisite for advanced courses. Of the freshmen only those exempt from physics or chemistry may elect the zoology, which is designed for sophomores and juniors, but is open to seniors. The course deals with invertebrates and vertebrates both, the type forms being lobster and frog with unicellular forms for comparison. In the second semester special attention is given to the comparative physiology of a representative series of animals, and the concluding lectures deal with the theory of organic evolution. The work of either semester may be taken independently.

At the end of the first semester of the introductory course, the student is free to choose any other course in the department except cytology and special readings, the prerequisite of which is the entire introductory year course.

The work offered covers the ground as follows:

A year course of invertebrate zoology dealing with the morphology and classification of the various groups from protozoa to protochordata. A small amount of field work is carried on in this course, consisting, when possible, of the collection of the material used in class. No other field work is done by the department.

A course for a semester in embryology of the usual type, including study of the sex cells, fertilization in *ascaris*, cleavage, embryology of the fish, the frog, chick, and pig.

A semester course of special readings of books or papers, the subject for 1916 being recent work in heredity.

A semester course in the comparative anatomy of vertebrates with the dissection and comparative study of six type vertebrates exclusive of the mammal, which is considered in the next course.

A semester course in mammalian anatomy, devoted to dissection of the cat with a comparative study of representatives of the different orders of the mammalia.

Cytology, a semester course dealing especially with the structure and biology of the cell, and with the acquisition of the technique of microscopic work.

In quantity less work is done at Vassar in zoology than at any of the other colleges used as the basis for comparison.

#### WELLESLEY.

At Wellesley the introductory course, called the biology of animals, is a three-hour year course open only to freshmen and sophomores. The course deals largely with the study of a series of types of invertebrates, no other work on invertebrates except the insect course being given in the department. The lectures follow closely the laboratory work which deals with the material in the following order: Frog, with reference at as many points as possible to the human body; bird in comparison with frog and as a study in adaptation, protozoa, coelenterates, flatworms, annelids, echinoderma, molluscs, arthropods. Lectures on evolution begin in the second semester and field work on birds after the Easter vacation. Bird talks are also given to the students.

Not only is the introductory course required for some of the advanced work in the department, but the student must have completed or be taking the course in vertebrate zoology in order to elec

more work. Vertebrate zoology is a three-hour year course dealing with a comparative study of vertebrate types, including the mammal, on which no separate course is given. The following types are studied: Dogfish, mud puppy, turtle, and cat.

The Grade III courses open to the students who have fulfilled the requirements of the preceding work are as follows:

Natural history of animals, dealing with the ecological aspect of zoology, three-hour semester course.

Insects, recommended with the natural-history course for those intending to teach, three-hour semester course.

Embryology and cell structure, a course the first half of which is devoted to histology, the second half to embryology, three-hour year course.

Physiology, dealing with experimental and theoretical questions in human physiology, three-hour year course.

Anatomy, a Grade II course, is open only to first-year special students in the department of hygiene, and deals especially with the dissection of the cat and with the elements of histology.

#### BARNARD.

The introductory course at Barnard is called "General biology and General zoology." It is a full-year course counting eight points and is open to sophomores, juniors, and seniors. The first eight weeks are devoted to general principles of animal life illustrated by laboratory work on invertebrates. The second eight weeks are spent studying invertebrates by the type method, working to a knowledge of metazoa through cell association. Insects are used as a basis for comparative embryology. Comparative anatomy is studied on the basis of evolution. The first semester deals with biological principles and invertebrate zoology.

The second semester takes the students from chordates to man. The principles of evolution are formally treated in lecture and in laboratory work as follows:

First stage—amphioxus; studies for cephalization and differentiation. Compared with man.

Second stage—dogfish; every system interpreted with reference to amphioxus.

Third stage—rabbit; each system carried up through to human.

The lectures develop the principles of evolution, bringing together the material of the second term and utilizing that of the first. Lantern slides are used in the lectures.

Completion of the first semester of the introductory course admits the student to a semester course of histology, which is an amplification of the elementary course. Completion of the entire introductory course admits the student to the following courses:

Embryology, one semester; an amplification of the first course.

Biology and vital relations of the human organism; a year course for students who do not wish the solid work of the advanced course of general

zoology. It deals with the anatomy and physiology of the human type in comparison with other organisms; embryology; heredity; genetics.

Practical zoology and embryology, a year course for students desiring practice and the preparation and mounting of zoological, histological, and embryological materials for microscopic examination.

General physiology, a year course, which deals with the general principles of animal physiology.

For students who have completed the entire introductory course and the semester course of embryology, an advanced course called general zoology is open. This course deals with invertebrates and vertebrates, and is based on the textbook Parker and Haswell.

#### RADCLIFFE.

The introductory course, a half course, at Radcliffe, deals more with the general principles of zoology than does that of Vassar or Wellesley. It includes briefly historical, structural, and ecological considerations of zoology.

The laboratory exercises consist of a study of material to illustrate the topics treated in the lectures supplemented by museum and field work. A fairly full study is made of a protozoan, a coelenterate, a worm, a crustacean, and a vertebrate. The other phyla are represented by forms that are studied without dissection and almost entirely externally.

The next course which is open to students who have taken an elementary course in zoology, botany, or physiology, is a half course called genetics and eugenics. It has no laboratory work, but is conducted by lectures, reading, and conferences. The course treats of the reproduction of animals, the origin of new races, the influence of heredity and of environment; applications to animal breeding and human society.

In these two early courses, then, the principles and philosophy of zoology are presented to the student as the basis for further work.

Completion of the first course admits the student to a half course in the comparative anatomy of vertebrates, which deals especially with the progressive modification in the structure of the organs from the lower to the higher vertebrates; and to a half course on the morphology, classification, and habits of insects.

Students who have completed the course in comparative anatomy may elect a half course of general histology which is preparatory to the following courses in embryology and cytology:

Embryology of vertebrates; a half course of organogeny, dealing with the formation of various organs and their relation to the germ layers.

Cytology with special reference to heredity.

The structure and function of sense organs, dealing with the anatomy and physiology of the chief classes of sense organs considered mainly ~~and~~ standpoint of their evolution.

Experimental morphology, which deals with the form-determining factors in development and growth through a study of the embryo as a dynamic system whose energies are continually manifested in change of form. The nature of the organization of embryo and adult is considered in the light of researches in experimental embryology and regeneration.

For students who are competent to carry on original investigation, the opportunity of pursuing investigations under the guidance of instructors is as follows: Embryology; cytology, with special reference to heredity; the structural and functional basis of animal reactions; comparative anatomy of vertebrates; experimental morphology.

#### MOUNT HOLYOKE.

At Mount Holyoke a course in general zoology is given, the first semester of which is termed an introductory course and is devoted to work upon representatives of a few of the more important invertebrate groups. The course begins at once with microscopic work upon the protozoa. Completion of this half course admits a student to the second half year of general zoology, which is devoted to vertebrate and invertebrate types both; to a semester course on the natural history of insects and parasites; and to a natural history course of one semester dealing with vertebrates.

If the student completes the full year of general zoology, she may elect a semester course called comparative anatomy of vertebrates, in which the study of the cat as a typical mammal is emphasized.

The three half courses mentioned are prerequisite to the following semester courses:

Osteology, a comparative study of vertebrate skeletons, including the preparation of the bones of one mammal.

Neurology, a course in the histology of the central nervous system and sense organs.

Theoretical biology, the history of the development of modern biology and a discussion of the philosophical side of the subject.

Completion of the semester course of comparative anatomy of vertebrates entitles the student to elect the following semester courses:

Embryology, dealing with different types in the development of the chick and mammal.

Histology and microscopic technique.

Cellular biology, the study of pond life with special emphasis upon protozoa; the structure of the cell; developmental and nondevelopmental phenomena.

A separate division of the zoology department offers two three-hour year courses in physiology. The first, general physiology, is open to sophomores who have a knowledge of chemistry, and deals with the activities of the human organism. The second, called also general physiology, is a more advanced course.

HISTORY.

The introduction of history into the curriculum of the woman's college came in general rather later and less unchallenged than did the English or the biology. Vassar had no department of history until 1887, though the established curriculum of 1873-74 offered to seniors a semester of lectures on modern history. The introduction of five history courses in 1887 was part of the general rejuvenation of the college at that time. Wellesley, in its first curriculum, 1875, offered a course each in history, medieval history, and modern history. Radcliffe's first curriculum of 1879 showed five courses in history. Barnard, in 1895, introduced its exchange system of professors through the provision for a demand for history and economics which warranted such a system. Mount Holyoke's first college curriculum of 1888 showed a well-developed history department. The figures of Dealey<sup>1</sup> show that the department of history now occupies nearly as important a place in the curriculum as an elective of the students as does the department of English.

The growth of the courses in government has led to a separation of them into a distinct department of political science at Vassar, of government at Radcliffe, and of politics at Barnard. At Wellesley three hours and at Mount Holyoke seven and a half hours of government are included in the department of history, raising thereby the total number of courses given by the department.

At Vassar, Barnard, and Mount Holyoke three hours of history are prescribed. At these colleges the prescribed work, and at Wellesley three hours of introductory work, are required for later election. At Radcliffe, to be admitted to advanced courses, the students must satisfy the instructor that they have had sufficient preparation in history.

*Courses and instructors in history.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	7 (3-hour)	9 (3-hour) 2 (1-hour)	10	7 (6-point) 3 (4-point)	4 (3-hour)
Semester courses.....	10 (3-hour) 1 (3-hour)	4 (3-hour)	11	1 (2-point) 1 (3-point)	10 (3-hour)
Hours.....	37	35	45½	29½	27
Teachers.....	7	7	14	8	5
Professors.....	2	1	7	4	1
Associate professors.....	2	3	0	1	3
Assistant professors.....	2	0	3	0	0
Instructors.....	1	3	4	2	1
Doctors' degrees.....	7	4	9	6	5

Although all of the colleges agree upon European history for the material of the introductory course, Wellesley alone offering an alternative of English history, the periods of European history

<sup>1</sup> Dealey, H. L. *Comparative Study of the Curricula*, p. 355.

which the courses deal, differ. Vassar includes from the ninth century until the present; Wellesley from the fifth century to 1648; Radcliffe from the fall of the Roman Empire to the present time; Barnard selects certain epochs for their social significance; and Mount Holyoke covers the period from the beginning of the Roman Empire to the thirteenth century.

Except at Vassar and at Radcliffe, the introductory courses are conducted largely by lectures and collateral reading. At Vassar a greater emphasis is laid on discussion. At Radcliffe the student's work is tested by weekly papers and discussions, and by individual conference with assistants. The system of conferences with the individual student has become an important part of the teaching of history in all of the colleges.

The following table shows the distribution of hours among the subjects covered by the history departments of the five colleges:

*Distribution of hours in history.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
English .....	6	9	6	3	7½
European .....	12	14	13½	17	9
American .....	7½	6	10½	4	3
Ancient .....	3	3	3	5½	.....
Technique .....	4	.....	1½	.....	.....
Other classes (unclassified, including Government courses) .....	4½	13	11	.....	17½
<b>Total.....</b>	<b>37</b>	<b>35</b>	<b>45½</b>	<b>29½</b>	<b>27</b>

<sup>1</sup> Government.

Among all the colleges European history takes the first place in the number of hours allotted to it. At Barnard the proportion of hours given to it is the most extreme. American and English history are close rivals for the second place. American leads at Vassar and at Radcliffe, the latter giving to American history proportionately and actually more hours than any of the other colleges. Mount Holyoke, on the other hand, gives much more attention to English than to American history.

All of the colleges, including Mount Holyoke, except in 1915-16, devote three hours to the study of ancient history, a proportion of time which seems rather small in consideration of the fact that as in literature comparatively few students gain much first-hand knowledge from the classics. High-school training is likely to prove somewhat inadequate. Barnard allows five and one-half hours to ancient history.

The group of unclassified courses includes, besides the government at Wellesley and Mount Holyoke, Vassar's eastern courses, and Radcliffe's economic and medieval history. Only Vassar and Rad-



cliffe attempt courses of pure technique which deal with the use of historic material.

It is interesting to note that no provision for the interpretation of the present European war except as is incidental to other courses is made in any of the colleges except at Wellesley and Barnard. At Wellesley a one-hour year course called "International politics" aims to give a general view of the international conditions since the close of the Bismarck period, with especial reference to the present relations of Europe, America, and Asia.

At Barnard the modern disturbance is attacked even more directly by a course three hours for the year of Contemporary European history, based largely upon current news.

In the analysis of the teaching force of a department, the number of teachers apportioned to the total amount of work offered is of some significance in judging the degree of specialization which the individual teacher can bring to his work. The following list permits a quick comparison :

	Teachers.	Hours.
Vassar -----	7	37
Wellesley -----	7	35
Radcliffe -----	14	45½
Barnard -----	8	29½
Mount Holyoke-----	5	27

Radcliffe and Barnard have the largest number of teachers in proportion to the hours of teaching.

The following percentages of the teachers of history are of the grade instructor: At Vassar, 14 per cent; at Wellesley, 42 per cent; at Radcliffe, 28 per cent; at Barnard, 37 per cent; at Mount Holyoke, 20 per cent.

At Vassar and Mount Holyoke, thus, the work is largely in the hands of teachers of professorial rank; at Wellesley the work is in the hands of instructors to a much greater extent.

The following percentages of the teachers possess the doctor's degree: At Vassar, 100 per cent, at Wellesley, 57 per cent; at Radcliffe, 64 per cent; at Barnard, 75 per cent; at Mount Holyoke, 100 per cent. At Vassar and Mount Holyoke, then, the department of history contains only teachers who possess the doctor's degree. The percentage is high at Barnard; at Radcliffe and at Wellesley still more, it drops somewhat. The percentage is interestingly high, however, attesting to a certain importance which the degree plays in this department.

VASSAR.

The colleges requiring history are Vassar, Barnard, and Mount Holyoke. In these colleges the required course conform

closely in content to the introductory courses of the other two colleges, Radcliffe, and Wellesley.

At Vassar, the required course, a 3-hour year course, may be taken either in freshman or sophomore year. The course is a general outline of the development of Western Europe from the ninth century to the present time, including a study of the principal institutions of the Middle Ages, the Renaissance, the Reformation, religious and political wars, and the development of modern states. Emphasis is laid upon training the student to use library facilities. The work is conducted by means of textbooks, library references, class discussions, and conferences. The following electives are open to students who have completed the general course:

*Courses dealing especially with the history of England:*

English political history, covering the mediæval and the modern history of England; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

The history of England in the eighteenth century, a continuation of the preceding course; 3-hour semester course.

The modern British constitution, a sequel to the above course, dealing with a study of the government and public institutions of Great Britain; 3-hour semester course.

*Courses dealing with European history:*

General European history, the required course; 3-hour year course.

The French Revolution, treating of the intellectual, economic, and political aspects of the revolutionary era; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

Nineteenth century history, the history of Europe from the year 1815; 3-hour year course.

The Renaissance, the period from 1250 to 1500, with special reference to Italy; 3-hour semester course.

The Reformation, covering efforts toward reform before 1500, and the relation of the individual to the state and to the church; 3-hour semester course.

*Courses dealing with American history:*

American history, devoted to the stages of development of the country and to a study of the evolution of the government; 3-hour year course.

(Advanced courses with prerequisite of one year of elective work.)

History of the United States since 1850, a course which centers about the Civil War, dealing with problems which culminate in it, and those which mark the period of reconstruction; 3-hour year course.

The literature of American history, a course which aims to show the value of contemporary literature as an historical source; 3-hour semester course.

*Courses dealing with the East and modern Russia:*

The Far East, concerned especially with India, Japan, and China in the nineteenth and twentieth centuries; 3-hour semester course.

The Near East, the history of Turkey and the Balkans in the nineteenth century; 3-hour semester course.

Modern Russia, dealing with the political, social, and economic conditions in Russia during the modern period; 3-hour semester course.

*Courses dealing with ancient history:*

Ancient history, devoted to the period from the early Aegean civilization through the establishment of the Roman Empire; 3-hour year course.

*Technique courses:*

Periodical literature, dealing with the use of journalistic literature in the study and writing of history; 2-hour semester course.

(Advanced course with prerequisite of one year of elective work.)

Historical geography, dealing with the relation of the geographic conditions in Europe and America to the political history of these countries; 3-hour semester course.

(Prerequisite at least three elective courses.)

The nature and treatment of historical material, a course which is intended to equip teachers of history and graduate students; 3-hour semester course.

## WELLESLEY

At Wellesley two semester courses and one year course are prerequisite to later election. The two semester courses cover the political history of England from 1485 to the present time. The year course covers the history of western Europe from the fifth century to the Treaties of Westphalia. The courses aim to train students in methods of historical work. Thus, at Wellesley the introductory work includes that of Vassar, with a special emphasis on English history. Further electives are as follows:

*Courses dealing especially with the History of England:*

Political history of England to 1485; 3-hour semester course.

Political history of England from 1485 to the present time; 3-hour semester course.

Constitutional history of England to 1399, dealing with the development of English constitutional government; 3-hour semester course.

Constitutional history of England from 1399 to the present time, a continuation of the preceding course; 3-hour semester course.

England under the Tudors and Stuarts, dealing with the religious and constitutional struggles of the sixteenth and seventeenth centuries; 3-hour year course.

*Courses dealing with European history:*

Introductory course; 3-hour year course.

History of the French Revolution, with the influence on the subsequent history of European countries; 3-hour year course.

International politics, including a general view of international conditions since the close of the Bismarck period with especial reference to the present relations of Europe, America, and Asia; 1-hour year course.

Diplomatic history of Europe since 1740, including a review of the century preceding; 3-hour year course.

Europe in the sixteenth century, a study of the great movements and personalities of the period; 3-hour year course.

Geography of European history, a study of the connection between events and localities; 1-hour year course.

*Courses dealing especially with the history of America:*

American history, dealing in the first semester with the age of discovery and conquest, in the second semester with the American Revolution; 3-hour year course.

History of the United States from 1787, a study of the formation and development of the Constitution of the United States; 3-hour year course.

Constitutional government, a course dealing with the American political system. In other colleges a course usually given in the department of government; 3-hour year course.

*Ancient-history courses:* One 3-hour year course.

A course called the history of Rome offers a general survey of Roman history through the reign of Diocletian. The same amount of time is given to ancient history at Wellesley as at Vassar.

There are no special courses in historical technique.

#### RADCLIFFE.

While Radcliffe offers an introductory course, it neither requires it for a degree nor demands it for admission to advanced courses. In history, as in the other departments, to elect advanced work the students must satisfy the instructor that they have had sufficient previous training. An interesting correlation between departments is shown in the fact that for three courses work in government will be accepted as a suitable preparation, and for two courses an approved course in Greek or Latin will be accepted. Even the research courses are announced as usually limited to graduate students.

The introductory course, a 3-hour year course, deals with European history from the fall of the Roman empire to the present time, offering a general survey of the development of mediæval and modern Europe.

Two full courses which deal especially with English history are offered:

Constitutional history of England to the sixteenth century, intended to explain the origin and earlier development of the constitution of English government.

History of England from 1688 to the present, a course which centers about political and parliamentary history.

Six courses dealing with European history are offered:

The introductory course; 3-hour year course.

History of Continental Europe since 1815, and European expansion in the nineteenth century, the two half courses covering the period of the development of constitutional government, the national movement, and world-wide expansion; 3-hour semester courses.

The age of the Renaissance in Europe, presenting the fourteenth and fifteenth centuries as a period of transition and emphasizing the history of Italy; 3-hour year course.

European industry and commerce in the nineteenth century, a course in economics which deals with the economic history of western Europe since the industrial revolution, emphasizing phases related to the economic history of the United States; 3-hour semester course.

Economic history of Europe to the middle of the eighteenth century, a course in economics which deals from the genetic point of view with the development of economic institutions and of the teachings of economic historians with the comparative development of typical industries both in Europe and the United States; 3-hour year course.

**Seven courses dealing with American history :**

**American history :** The formation of the Union, 1760-1829. A course spent on important points in the constitutional, political, and economic development of the people; 3-hour semester course.

**American history :** The development of the Nation, 1830 to the present time, emphasizing the same phases of development from the presidency of Jackson to the present; 3-hour semester course.

**American history to 1760,** dealing with the history, institutions and economic and social life of the English colonies; 3-hour semester course.

**The history of the West, 1840-1915,** dealing with the causes and process of western migration, and with the occupation of the provinces of the United States; 3-hour semester course.

**Latin America,** a general view of its history and the diplomatic and economic problems of the present day of the chief Latin-American countries; 3-hour semester course.

**Economic and financial history of the United States,** dealing with important topics related to American finance; 3-hour semester course.

**Manuscript materials of American history,** a course intended to locate and describe the manuscript sources of American history and to develop their values; 3-hour half course through year.

**One course in ancient history :**

**History of Rome to the reign of Diocletian,** a general course on the place of Greece and Rome in the world's history; 3-hour year course.

**One course in technique :**

**Historical bibliography and criticism,** an account of the materials for historical research, methods of research, and discussion of principles of historical criticism and interpretation; half course through the year.

**In addition Radcliffe offers four courses listed in the table as unclassified :**

**History of religion, the beginnings of Christianity ;** 3-hour year course.

**Topics in the economic history of the nineteenth century,** 2-hour year course.

**Mediæval institutions,** a course of research.

**Economic history,** a course of research.

**BARNARD.**

At Barnard the prescribed work, as at Vassar, deals with the history of Europe. It treats epochs of European history, with special reference to forms of government and changes in social conditions. The course is 6-point for the year, and is prerequisite to all other courses.

Little emphasis is laid on special English history, but one course being given and that one with special reference to the history of Continental Europe (6-point year course).

Courses dealing with European history are as follows:

**Modern European history with special reference to the development of France ;** 4-point year course.

Contemporary European history, based largely upon current news; 6-point year course.

The history of the intellectual eras in Europe; 6-point year course.

European social history; 6-point year course.

The expansion of Europe; 6-point year course.

Courses dealing with American history are as follows:

History of the United States to the close of the Reconstruction; 4-point year course.

History of the United States since 1870 with special reference to economic and social conditions; 4-point year course.

In ancient history the following courses are offered:

The Roman Empire; 6-point year course.

History of Greece to the end of the war with Persia; 3-point semester course.

Greek and Roman theories of life and conduct; 2-point semester course.

#### MOUNT HOLYOKE.

At Mount Holyoke six semester hours of history are required. Three of these hours must be taken in a prescribed course, which, like the introductory courses of the other colleges, deals with the history of mediæval Europe. At Mount Holyoke, however, the course covers the period from the beginning of the Roman Empire to the thirteenth century. It is a 3-hour year course.

The history of England is dealt with in the following courses:

The history of England to 1216; 3-hour semester course.

The history of England from the reign of Henry III to the period of the Tudors; 3-hour semester course.

Early English history. Advanced course, dealing with some phase of economic or legal history before the reign of Edward III; 3-hour year course.

English economic history from the fourteenth century to the Industrial Revolution; 3-hour semester course.

The history of Europe is dealt with in the following courses:

The history of Europe from the beginnings of the Renaissance to the Lutheran Reformation; 3-hour semester course.

The history of Europe from the Lutheran Reformation through the eighteenth century; 3-hour semester course.

The history of Europe during the nineteenth century (prerequisite the two preceding courses); 3-hour year course.

The courses dealing with American history are:

The constitutional and economic history of the American Colonies; 3-hour semester course.

The political and constitutional history of the United States; 3-hour semester course.

Four courses dealing with government are as follows:

The history of political theory, ancient to mediæval; 3-hour semester course.

The history of political theory, modern; 3-hour semester course.

International law; 3-hour semester course.

Modern governments; 3-hour year course.

The two semester courses in ancient history are omitted in 1915-16.

## GERMAN.

Courses in the modern languages have held undisputed place in every curriculum of the woman's college throughout its history. "The only living tongues admitted to the curriculum," says President Raymond, and other presidents apparently agree with him, "are the French and German." The group, first including only French and German, later embraced Spanish and Italian, and now at Radcliffe introduces the study of Russian and of Portuguese.

The necessity of offering introductory courses suited to students of different degrees of preparation complicates the beginning work and apparently increases the size of the department of German. All of the colleges make allowance for the students who have studied no German, and for students who have passed by examinations the different units of admission requirement. It is questionable whether the content of an elementary course in a modern language can be college material, or should be credited as such. Almost any other elementary course may make greater demands upon the intellect than an elementary course in a language. Such courses might be offered to students without preparation, but need not count for credit.

Beyond the introductory courses, dealing with language, the advanced courses include two kinds: Those devoted to practice in speaking and writing German, and those bearing on an intensive study of the phases of the language, Old High German, Middle High German, and history of the German language. Except for Radcliffe, which with its graduate courses naturally offers the most hours, the other four colleges offer very nearly the same number of hours of work devoted to the German language. Of courses which are more distinctly literary Barnard takes the lead by five and one-half hours, and is only one and one-half hours behind Radcliffe, which has its graduate courses. An examination of the literature courses with reference to the completeness of the period basis shows that at Vassar, Wellesley, Barnard, and Mount Holyoke, except in outline courses, the work deals almost entirely with nineteenth century, romantic, or contemporary literature. At Radcliffe the periods from the twelfth century to the twentieth are covered.

The study of Goethe occupies a prominent place in the German curriculum. At all of the colleges, except Radcliffe, from three to five hours, besides parts of other courses, are devoted entirely to Goethe. At Radcliffe, Goethe appears only in a course of comparative literature in which Faust is used as the basis of a study of kindred dramas in European literature.

The practical tendencies of the German courses are partly indicated by the stress laid on training in oral German. Vassar that all of the courses in the department are conducted in (

In addition, it gives two courses in German conversation, one of which counts toward the degree. At Wellesley, except in a philology course not given in 1915-16, the language of the classroom in all courses is German. A course called "studies in modern German idiom" offers special vocabulary training. At Radcliffe, the courses are conducted in English, mainly in German, or entirely in German, according to the course. Two semester courses are given to practice in speaking and writing German. At Barnard, as at Radcliffe, there is no universal use of German in the courses. An intermediate practice course, all in German, and an advanced colloquial practice course are offered for training in conversation.

Mount Holyoke offers a year of oral German to seniors who wish to be recommended to teach German. Furthermore, a course in the teaching of German is offered in the department of education. These two courses are the only recognition in any of the five colleges of the vocational application of the subject.

An analysis of the teaching force brings out the fact that for the number of hours offered, the work, except at Barnard, is carried by comparatively few teachers. Barnard leads in the ratio of the number of teachers to the number of hours taught.

The percentages of the teachers of the grade instructor are: Vassar, 50 per cent; Wellesley, 33½ per cent; Radcliffe, 83 per cent; Barnard, 44 per cent; Mount Holyoke, 25 per cent. At Radcliffe the proportion of instructors on the teaching staff is largest, and at Mount Holyoke, smallest.

The percentages of teachers with the doctor's degree are: Vassar, 66½ per cent; Wellesley, 33½ per cent; Radcliffe, 66½ per cent; Barnard, 77 per cent; Mount Holyoke, 50 per cent. Barnard has the largest proportion of teachers with doctorates, and Wellesley has the smallest.

*Courses and instructors in German.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	5 (3-hour) 1 (2-hour) 2 (1-hour) 1 (0-hour)	2 (3-hour) 3 (2-hour) 4 (1-hour)	9 (3-hour)	7 (6-point) 1 (6 or 4 point) 4 (4-point) 1 (2-point)	6 (3-hour) 1 (3 or 2 hour) 2 (2-hour) 2 (1-hour)
Semester courses.....	5 (3-hour) 2 (2-hour)	7 (3-hour) 3 (2-hour)	9 (3-hour) 6 (2-hour)	6 (2-point)	2 (3 or 2 hour)
Total hours.....	28½	29½	46½	36 or 35	30 or 28
Teachers.....	6	5	6	9	4
Professors.....	1	1	0	5	1
Associate professors.....	1	3	1	0	2
Assistant professors.....	1	0	0	0	0
Instructors.....	3	2	5	4	1
Doctors' degrees.....	4	2	4	0	2
Hours for language.....	14	12	22	13 or 12	14 or 13
Hours for literature.....	14½	17½	24½	23	16 or 15



## VASSAR.

Of the modern language departments, German is chosen because of its size and importance in the college curriculum. In the five colleges, the German departments not only offer more courses than any of the other modern language departments, Mount Holyoke excepted, where an equal number is offered in French, but they are outnumbered in courses by only a few other departments in the colleges.

The language and the literature courses in German are so much more closely correlated than in English that it is impossible to draw a distinct line of demarcation between them, nearly all of the composition courses including the study of literature. The following separation is based on the kind of work which predominates in the course.

At Vassar the modern language requirement may be passed off if the student can satisfy the department of her ability to read and pronounce the language. No course therefore can be said to be required of the students. The department offers two introductory courses, one, an introduction to literature to students who have offered German at entrance, and the other a course in which students may begin the study of German. The latter course is continued a second year.

Beyond these introductory courses the language work offered is as follows:

Middle high German, a three-hour course for a year, of which one hour is spent on the German literature of the Middle Ages, and two hours on the language.

Advanced German and composition; purely a language course. One-hour year course.

German conversation. Two years of conversation are offered, the first counting as one hour, the second not to be counted toward a degree. These special courses, in addition to the fact that all courses in the department are conducted in German, give the student a working knowledge of the language.

Of courses predominately literary, the following are offered:

Introduction to the classical literature of the eighteenth century, dealing with the works of Lessing, Schiller, and Goethe; 3-hour year course.

Goethe, his life and works; 3-hour semester course.

Goethe's Faust; 3-hour semester course.

Critical and æsthetic writings of the classical period; 3-hour semester course.

German literature in the first half of the nineteenth century; 3-hour semester course.

The German novel of the nineteenth century; 2-hour year course.

German romanticism; 3-hour semester course.

Modern German drama; 2-hour semester course.

Contemporary German drama; 2-hour semester course.

Arranged by periods, a large proportion of the above literary work is included within the nineteenth century or at either

of it. The greatest stress is laid on the study of Goethe, two courses and part of a third being devoted to it.

WELLESLEY.

At Wellesley the requirement of a language unless a third language has been presented at admission makes the courses of the German department, as at Vassar, practically all elective. Three elementary courses are offered, one for beginners, one for the students who have fulfilled the 2-point admission requirement, and one covering the 3-point admission requirement. Following these three Grade I courses of language are two Grade II courses, one in grammar and composition, the other in German idiom; one Grade III course on the history of the German language, and one Grade III course of grammar and phonetics.

The literature courses may be grouped as follows:

A Grade I introductory course, called Outline history of German literature; a 2-hour year course.

Two Grade II courses, called history of German literature; each 2-hour semester courses.

A Grade II course, Goethe's life and works; 3-hour semester course.

Two Grade III courses, Goethe's Faust; each 3-hour semester course.

A Grade II course and a Grade III course on Schiller, each a 3-hour semester course.

A Grade II course on German lyrics and ballads; 1-hour year course.

Grade III courses on: Nineteenth century drama; 3-hour semester course. The German novel; 2-hour year course. The German romantic school; 3-hour semester course.

Aside from the one year and two semester courses in the history of German literature, the stress at Wellesley is upon the romantic period, upon Goethe, and slightly upon the nineteenth century.

RADCLIFFE.

At Radcliffe College unless both German and French are presented for admission, either German or French must be taken in the freshman year. As at Vassar and at Wellesley, the introductory courses are designed to fit the needs of beginners and of students who passed in elementary German for admission. Four courses, one counting as two courses, are offered to meet the varied preparations or the students.

Beyond these language courses, a half course in speaking and writing German is offered especially for those who wish to become teachers of German.

Four advanced language courses are offered, a half course in German grammar and in writing German, a half course in Old High German, a half course in the history of the German language, and a half course in Gothic, an introduction to the study of German philology.

The literature courses cover the following periods:

- German literature in the twelfth and thirteenth centuries; 3-hour year course.
- German religious sculpture in the Middle Ages; 2-hour semester course.
- The German religious drama of the fifteenth century; 2-hour semester course.
- German literature in the sixteenth century and its relation to English literature; 2-hour semester course.
- Introduction to German literature of the eighteenth and nineteenth centuries; 3-hour year course.
- German literature of the classic period, of the eighteenth century; 3-hour year course.
- German literature in the first half of the nineteenth century; 3-hour semester course.
- German literature in the second half of the nineteenth century; 3-hour semester course.

Courses devoted to special writers are:

- Schiller; 3-hour year course.
- Goethe's Faust with a study of kindred dramas in European literature; 3-hour semester course.
- Heine's life and works, including his relations to the romantic school and young Germany; 3-hour semester course.
- Modern German lyrics—Heine's poems; and selections from German folk-songs; 3-hour semester course.
- The dramatic works of Grillparzer, considered in their relation to European literature; 2-hour semester course.
- In addition, a seminary course is devoted to studies in the development of German poetic style.

#### BARNARD.

Under the new requirements in modern languages at Barnard, no German courses are now prescribed. Before the senior year all, except students of Greek, must, however, satisfy the departments of Romance languages and Germanic language that they have a working knowledge of French and German. Certain courses are recommended to give the proficiency required.

As at the other colleges, the introductory courses are planned to meet the needs of the students offering different degrees of preparation. The first three courses consist of grammar, composition, and reading; the fourth of selected dramas of Lessing, Goethe, and Schiller.

Beyond these courses, the electives in language are as follows:

- Intermediate practice course, a conversation and theme course entirely in German; 4 or 6 point course.
- Colloquial practice, an advanced discussion course; 2-point year course.
- History of the German language; 2-point semester course.
- The German of to-day; 2-point semester course.

The last two courses are given at Columbia and are open to properly qualified seniors.

The literature courses which deal with periods are as follows:

History of German literature from the earliest times to the nineteenth century; 4-point year course.

Middle High German literature; 6-point year course.

German literature from 1796 to 1871; 2-point semester course.

Selected dramas of the nineteenth century; 4-point year course.

Romantic fiction and poetry; 6-point year course.

Modern German prose; 6-point year course.

Contemporary German literature; 2-point semester course.

Only one course of this group, Middle High German, deals entirely with literature predating that of the nineteenth century.

Courses devoted to special writers are as follows:

Schiller; 6-point year course.

Goethe's Faust; 4-point year course.

Heinrich von Kleist; 2-point semester course.

Myth and legend in the works of Richard Wagner; 2-point semester course.

#### MOUNT HOLYOKE.

At Mount Holyoke six semester hours of Greek, French, or German are required for the degree. Three introductory courses, the first for beginners, the other two for those students who have covered the entrance requirement, are offered. These are followed by language course of: Middle High German grammar and readings, 2 or 3 hour year course; theme writing, 1-hour course; oral German, 1-hour year course.

The literature courses arranged on the period basis are as follows: Outline of German literature, 3-hour year course; German romanticism, 2 or 3 hour semester course; German drama from Lessing to 1900, 2-hour semester course; nineteenth century writers, 2 or 3 hour semester course.

Courses dealing with special writers are as follows: Schiller's life and works, 3-hour year course; Goethe's life and works, 3-hour year course; Goethe's Faust, 2-hour year course.

A teacher's course in German is offered in the department of education.

#### THE CLASSICS.

##### *Courses and instructors in Latin.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	2 (1-hour)	2 (3-hour) 4 (1-hour)	3 (3-hour)	1 (8-point) 1 (6-point) 1 (4-point)	2 (3-hour)
Semester courses.....	6 (3-hour) 4 (2 or 3 hour) 9 (2-hour) 2 (1-hour)	7 (3-hour)	3 (3-hour) 3 (1-hour)	2 (2-point) 6 (3-point) 2 (2-point)	7 (3-hour) 1 (2 or 3 hour)
Hours.....	25 or 27	20½	15	22	17½ or 18
Teachers.....	8	4	6	7	4
Professors.....	1	2	4	3	1
Associate professors.....	2	1	0	0	1
Assistant professors.....	1	0	0	0	0
Instructors.....	3	1	2	4	2
Doctors' degrees.....	8	2	2	3	3

The history of the woman's college as that of the man's shows from the beginning strong emphasis on the study of the classics. Required for admission and prescribed for more or less of the entire college course, Latin and Greek have dominated the old scheme of prescribed disciplinary studies. "The studies in the classical languages," says President Raymond, "particularly Latin, aim primarily at formal discipline; that is, the exercise and development of the faculties as a basis, or formal preparation for subsequent special studies."<sup>1</sup>

Vassar's early curriculum required both Latin and Greek throughout the entire course of the classical students, though it omitted Greek and lightened the Latin for scientific students. Later, in 1874, the "established curriculum" for the first year and a half made a requirement of Latin, but permitted the alternative of a modern language with Greek. Wellesley's first curriculum has the same prescription of the classics as that of Vassar's established curriculum.

Radcliffe required work in the classics until 1883-84, when by the extension of the elective system to the freshman year at Harvard College, Latin, Greek, and mathematics were dropped from the prescribed course.

Barnard prescribed both Latin and Greek until 1897, when an alternative was allowed for Greek.

Mount Holyoke's first college curriculum prescribed both Latin and Greek for classical students, and Latin for scientific students. Later, however, Latin was no longer required for the scientific course, but was prescribed for two terms of the freshman year in the literary course.

While Latin has held its own from the beginning, weakening only in the number of hours of prescribed work, Greek has been alternated with modern languages until it no longer holds a place parallel in importance to that of Latin. At the present time, since Greek is not required for admission while Latin must be satisfactorily passed, the requirement of Latin or Greek for a B. A. degree resolves itself largely into a choice of Latin by the student who has already made an intensive study of it for admission.

For this reason, and because with the exception of Mount Holyoke and Radcliffe, the colleges offer a larger number of courses in Latin than in Greek, of the classics, the department of Latin was chosen for analysis.

At Mount Holyoke five hours and at Radcliffe three hours more of Greek are offered than of Latin. At Vassar, Barnard, and Mount Holyoke, three hours of Latin or Greek are required for a degree. At Wellesley and at Radcliffe neither subject is required. Since the number of courses offered are in a measure indicative of the amount of work demanded by the students, it is interesting to note when

<sup>1</sup> Raymond, John Howard. Vassar College, 1873, p. 41.

the colleges which require Latin have a demand for further courses greater than those colleges which waive Latin. The present question as to the decline of the classics in importance also adds interest to the analysis. Mount Holyoke, which requires six semester hours, seems not to have increased its department proportionately. But, as before noted, Mount Holyoke has a strong department of Greek. Vassar, on the other hand, offers more work in Latin than in any other single subject of its curriculum. At the same time it offers more courses in Greek than does any other of the five colleges. Radcliffe, which does not require either Greek or Latin, and which usually adds to its curriculum courses as soon as there is a demand for them, offers but 15 hours of Latin and  $12\frac{1}{2}$  of Greek, an amount which, when compared with that of the other departments of the college, indicates a comparatively slight demand for the Classics.

Wellesley, with no requirement, offers  $20\frac{1}{2}$  hours of Latin and 20 hours of Greek, but the small classes require only four teachers for the Latin and but two for the Greek. Barnard, requiring three hours, presents the balanced condition of 22 hours of Latin carried by seven teachers. It also offers  $20\frac{1}{2}$  hours of Greek. On the whole, the requirement of Latin or Greek seems to induce a more thriving condition of the two departments.

An analysis of the teaching force shows that while Vassar has the greatest number of teachers, Barnard and Radcliffe lead in the ratio of the number of teachers to the numbers of hours taught.

The percentages of teachers of the grade instructor are: Vassar,  $37\frac{1}{2}$  per cent; Wellesley, 25 per cent; Radcliffe, 33 per cent; Barnard, 57 per cent; Mount Holyoke, 50 per cent. At Barnard the proportion of instructors on the teaching staff is largest and at Wellesley it is smallest.

The percentages of teachers with doctors' degrees are as follows: Vassar, 100 per cent; Wellesley, 50 per cent; Radcliffe, 67 per cent; Barnard, 43 per cent; Mount Holyoke, 75 per cent. Vassar is in the lead, with all of its teachers possessing the doctor's degree.

#### MATHEMATICS.

##### *Courses and instructors in mathematics.*

	Vassar.	Wellesley. <sup>1</sup>	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	3 (3-hour)	5 (3-hour)	15 (3-hour)	4 (6-point)	6 (3-hour)
Semester courses.....	8 (3-hour)	2 (1-hour)	15 (3-hour)	1 (8-point)	1 (1-hour)
Hours.....	21	21 $\frac{1}{2}$	67 $\frac{1}{2}$	20 $\frac{1}{2}$	29 $\frac{1}{2}$
Teachers.....	6	8	10	6	5
Professors.....	1	4	2	3	1
Associate professors.....	0	2	1	0	3
Assistant professors.....	3	0	2	0	0
Instructors.....	2	3	3	3	1
Doctors' degrees.....	4	6	9	5	2

<sup>1</sup> Includes applied mathematics.

The history of mathematics in the curriculum of the woman's college closely parallels that of Latin. From the first organization of the colleges until the present time it has been required in all of the colleges except Radcliffe, which dropped the requirement of mathematics with that of Greek and Latin in 1883. Except at Vassar, only the freshman year has been required for mathematics, but Vassar in its early days believed thoroughly enough in the efficacy of mathematics to develop the mind to prescribe it also for a semester of the sophomore year and a semester of the junior year. It is explained that the student will find it "valuable mainly as present training for her faculties and as an introduction to completer work if she choose a scientific career."<sup>1</sup> With the organization of the "established curriculum" in 1874, mathematics is prescribed until the middle of the sophomore year only. Not until 1895-96 did Vassar follow the example of the other colleges for women and limit the requirement of mathematics to the freshman year.

At present all of the colleges except Radcliffe require of the freshmen three hours of mathematics. The unanimity of this demand upon the student, as well as the length of time during which it has been made, makes an analysis of the department of mathematics significant.

A glance at the number of hours of mathematics offered by the colleges shows Radcliffe greatly in the lead. The 67½ hours of work can scarcely be compared with the number offered by the other colleges, the difference is so extreme. Even subtracting 30 of the hours, which though primarily for graduates admit undergraduates, leaves Radcliffe still with 37½ hours to its credit. That Radcliffe offers more courses in mathematics than in any other subject of its curriculum is an interesting fact in the light that mathematics is not required for a degree, and therefore must be demanded by the students to hold its place in the curriculum.<sup>2</sup>

Of the other colleges, Vassar, Wellesley, and Barnard closely approximate each other in the number of hours which they offer, though Wellesley carries the work with two more teachers than Vassar or Barnard. As in English, the freshman requirement affects the teaching force in increasing in the large colleges the number of divisions necessary to handle the introductory course. Mount Holyoke, while requiring six semester hours of the subject, for which four teachers are needed, and in addition offering eight hours more of mathematics than of the other three colleges, has but five teachers for the entire work. Though Radcliffe has the greater number of teachers, Wellesley leads in the ratio of the number of teachers to the number of hours taught.

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<sup>1</sup> Raymond, John Howard. Vassar College.

<sup>2</sup> Mathematics thus differs from Latin in its effect on the curriculum.

The percentages of teachers of the grade instructor are as follows: Vassar, 83½ per cent; Wellesley, 37½ per cent; Radcliffe, 50 per cent; Barnard, 50 per cent; Mount Holyoke, 20 per cent. At Radcliffe and Barnard the proportion of instructors on the teaching staff is largest; and at Mount Holyoke smallest.

The percentages of teachers with doctors' degrees are as follows: Vassar, 66½ per cent; Wellesley, 75 per cent; Radcliffe, 90 per cent; Barnard, 83½ per cent; Mount Holyoke, 40 per cent. Radcliffe and Barnard show the largest proportion, while Mount Holyoke has the smallest number of doctorates, an inversion of the preceding statistics, where Mount Holyoke showed the highest number of teachers of professorial rank.

At Wellesley only, a course of statistics is included in the department of mathematics. Vassar, Radcliffe, and Barnard treat of the subject in the department of economics, and Mount Holyoke omits it from the curriculum.

#### CHEMISTRY.

##### *Courses and instructors in Chemistry.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	5 (3-hour)	3 (3-hour)	5 (3-hour)	1 (12-point)	2 (3-hour)
Semester courses.....	4 (3-hour) 2 (3 or 4 hour) 1 (3 or 3 hour)	6 (3-hour)	1 (2-hour) 4 (3-hour)	3 (6-point) 2 (7-point)	6 (3-hour) 3 (2-hour) 2 (1-hour)
Number of hours.....	25 or 27½	18	23	22	19
Teachers.....	11	4	6	4	7
Professors.....	1	1	0	1	1
Associate professors.....	0	1	0	0	1
Assistant professors.....	1	0	4	0	0
Instructors.....	9	2	2	3	6
Doctors' degrees.....	3	3	6	1	3

In the early days of the curriculum, chemistry did not hold such an assured place as that of the classics, mathematics, or modern languages. As a science connected more with the interests of men than of women and as a study requiring the equipment of a laboratory, chemistry made its way slowly into an important position in the curriculum of the woman's college.

Vassar's first curriculum announces for seniors one semester of chemistry, from the textbook of Stockhardt and Wells. It is interesting to note, however, that by 1873 among the applications of chemistry to the arts was that of chemistry of breadmaking, a project probably not borrowed from the colleges for men.

Wellesley in 1876 offered to juniors and seniors a course of general chemistry, two courses of analytical chemistry, and one course of chemical philosophy, whatever that may be.

Radcliffe, through difficulty in providing laboratory equipment in its early cramped quarters, offered no course in chemistry until 1882-83.



Barnard also had no chemistry when the college started. In 1890 a chemical laboratory was received from Miss Hitchcock, and through the generous effort of Prof. Bower, of the Columbia school of mines, a course was offered to a class of 10 students. This course included the related subjects, hygiene and sanitation.

Mount Holyoke gave chemistry a place on its curriculum from the first.

The department of chemistry is chosen for analysis because of its connection with the present required work of the colleges and because on the whole it offers more hours than are offered by the alternative requirement, physics.

At Vassar, Barnard, and Mount Holyoke, three hours of physics or chemistry are prescribed, and at Wellesley six hours of natural science. Radcliffe prescribes no science. The greatest amount of work is offered at Vassar, Radcliffe offering a few hours less. The other three colleges are practically equal in the amount of chemistry given.

It is interesting to note the practical tendencies of the content of the courses. At Vassar, where the largest amount of work is offered, three courses, or six hours, are given directly to consideration of the applications of chemistry to food and sanitation. At Radcliffe, which closely approximates Vassar in the amount of work given, a semester course is devoted to biological chemistry, giving systematic treatment of the chief constituents of living organisms and discussing their chemical behavior. Such a course is especially useful for students of science and for medical students. A year is given to industrial chemistry, also, dealing with manufactories and chemical work. Both of these courses have practical bearing, although perhaps suggesting the man-made curriculum.

Wellesley includes food analysis in two of its courses, and Mount Holyoke gives a semester to the chemistry of foods. Barnard makes no special attempt to give practical work.

The analysis of the teaching force shows Vassar with the largest number of teachers. The percentages of teachers of the grade instructor are as follows: Vassar, 81 per cent; Wellesley, 50 per cent; Radcliffe, 33 per cent; Barnard, 75 per cent; Mount Holyoke, 85 per cent. Thus, at Mount Holyoke and Vassar the teaching is largely in the hands of instructors, and at Radcliffe is done by teachers of the professorial rank. The percentages of teachers with the doctor's degree are as follows: Vassar, 27 per cent; Wellesley, 75 per cent; Radcliffe, 100 per cent; Barnard, 25 per cent; Mount Holyoke, 43 per cent. Thus at Radcliffe, all of the teachers, and at Wellesley three-fourths of them, have the doctor's degree, while at Barnard and at Vassar approximately but one-fourth have the same degree.

## PHILOSOPHY AND PSYCHOLOGY.

The departments of philosophy and psychology, which were formerly grouped into one, are now usually separated, though the connection is still close between them in all of the colleges. The departments were chosen for analysis because their work forms part of the requirement for the degree in all of the colleges but Radcliffe and because the two departments together form a very considerable part of the curriculum. They are analyzed in separate tables for accuracy of detail.

The history of the curriculum shows that philosophy has always been included as a study in the five colleges. Vassar's first curriculum announces intellectual philosophy (Haven) and moral philosophy (Wayland) as required of seniors. Wellesley's first curriculum not only offers mental and moral philosophy, but history of philosophy. Radcliffe opens with six courses of philosophy and psychology. Among the instructors appear the names of Mr. James, Mr. Palmer, and Dr. Peabody. At Barnard and Mount Holyoke both, departments of philosophy are open from the start.

At the present time the three hours of required work vary in content at the different colleges. At Vassar philosophy is required in the junior year, and consists of a history of modern philosophy from Bruno to Berkeley, with discussion of a few important problems in philosophy. At Wellesley the requirement must be filled before the senior year, and the student is given a choice of courses. She may choose a semester of introduction to psychology and a semester of introduction to philosophy, or she may take a full year of an introductory course in experimental psychology.

At Barnard the course in philosophy which is prescribed for sophomores consists of one semester of psychology and one of logic. Though Mount Holyoke prescribes a requirement of psychology and philosophy, the semester course required is psychology and deals with psychological facts only. Any other course in the department may fulfill the requirement of the other semester.

*Courses and instructors in philosophy.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	0	3 (3-hour) 1 (1-hour)	1 (3-hour) 4 (2-hour)	5 (6-point) 1 (8-point) 2 (4-point) 4 (3-point) 1 (2-point)	0
Semester courses.....	7 (3-hour) 1 (2-hour) 1 (1-hour)	2 (3-hour)	8 (3-hour)		7 (3-hour) 1 (1, 2, or 3 hour)
Hours.....	12	13	23	26½	10½, 11, or 12½
Teachers.....	2	3	5	11	2
Professors.....	2	2	3	8	1
Associate professors.....	0	0	0	0	1
Assistant professors.....	0	0	1	0	0
Instructors.....	0	1	1	3	0
Doctors' degrees.....	2	2	4	9	2

*Courses and instructors in psychology.*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Year courses.....	0	2 (3-hour)	3 (2-hour)	4 (6-point) 1 (8-point) 4 (4-point) 2 (3-point)	1 (1, 2, or 3 hour)
Semester courses.....	3 (3-hour) 2 (2 or 3 hour) 1 (2-hour) 1 (1 or 2 hour) 2 (1-hour)	2 (3-hour)	2 (3-hour)		4 (3-hour)
Hours.....	9 or 10	9	9	25½	7, 8, or 9
Teachers.....	5	3	3	6	4
Professors.....	1	2	1	4	2
Associate professors.....	0	0	0	0	1
Assistant professors.....	0	0	1	0	0
Instructors.....	4	1	1	2	11
Doctors' degrees.....	2	3	3	5	3

<sup>1</sup> Assistant.

In all of the colleges more hours are offered in the department of philosophy than in that of psychology. At Vassar the hours offered in philosophy are increased by two semester courses of three hours each on the history and principles of education. The department of psychology at the same college offers a two-hour semester course of educational cast called "Mental hygiene of learning and teaching." The policy at Vassar at present is against special training in a department of education.

A marked tendency in psychology is toward experimental work. In all of the colleges experimental or laboratory psychology is emphasized over theoretical psychology.

The greatest number of hours in psychology is offered at Barnard. Against the 9 hours of the other four colleges it presents 25½ hours. The greatest number of hours in philosophy is also offered at Barnard. Although its 26 hours are an increase over Radcliffe by but 8 hours, they are greatly in advance of the other three colleges.

An analysis of the teaching force shows Barnard with more teachers both in psychology and philosophy than any of the other colleges. In proportion to the number of hours taught, Barnard leads in philosophy, and Vassar and Mount Holyoke in psychology. In the philosophy department the proportion of instructors to the entire teaching force is as follows: None at Vassar; 33½ per cent at Wellesley; 20 per cent at Radcliffe; 27 per cent at Barnard; none at Mount Holyoke. This proportion reveals a remarkably small percentage of teachers of the grade instructor in this department in all of the colleges. The proportion of doctorates is correspondingly high: Vassar, 100 per cent; Wellesley, 66½ per cent; Radcliffe, 80 per cent; Barnard, 82 per cent; Mount Holyoke, 100 per cent.

The departments of psychology give the following percentages of instructors: Vassar, 80 per cent; Wellesley, Radcliffe, and Barnard, 33½ per cent; Mount Holyoke, 25 per cent. Here again the doctorates correspond: Vassar, 40 per cent; Wellesley, 100 per cent; Ra

100 per cent; Barnard, 83½ per cent; Mount Holyoke, 75 per cent. Except at Vassar, which had a high percentage of teachers of the grade instructor, all of the colleges show few teachers of the grade instructor in the department, and many doctorates, a correlation which does not always follow.

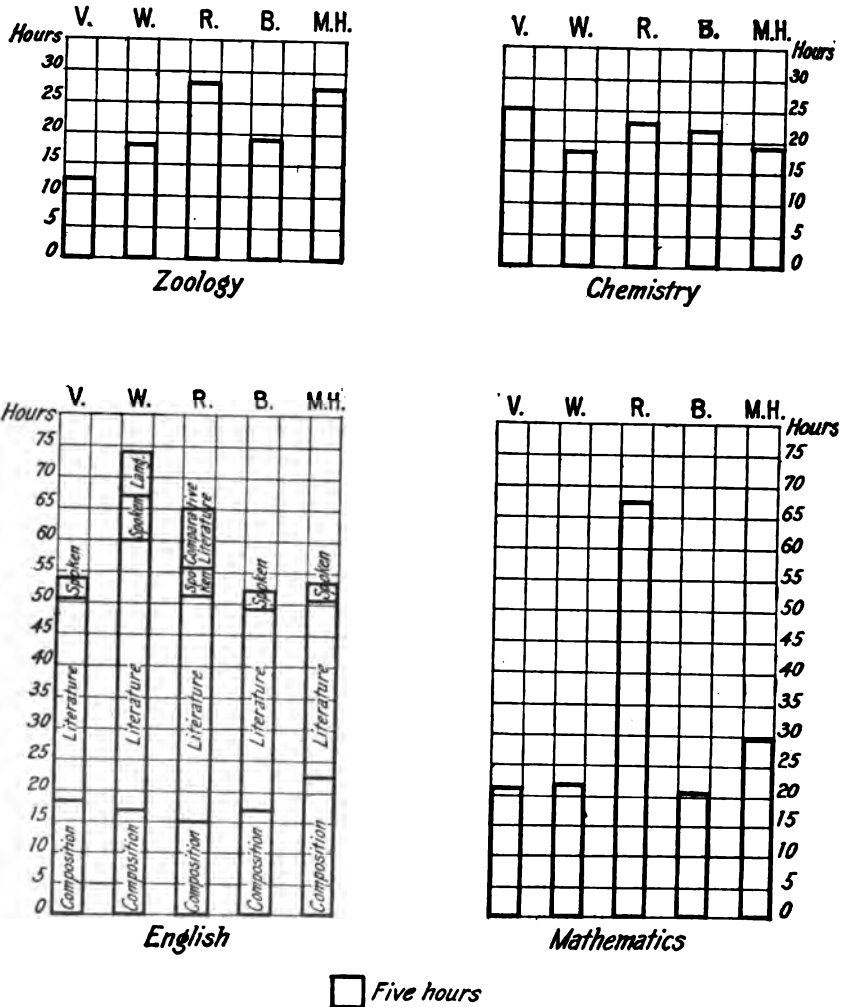


FIG. 4.—Comparison of the number of hours given to English, chemistry, mathematics, and zoology, at Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke.

**SUMMARY OF THE STUDY OF THE MODERN CURRICULUM.**

Though the development of the curriculum from year to year seems slow, and though the course of study sometimes appears impervious to demands for change, a comparison of the present with the early curriculum shows that it has been by no means a static institution. Unquestionably it has grown into a product very different from its

original simple form. Whether this growth has been in symmetry, virility, and flexibility, or whether it has been a matter of increase to unwieldy proportions by the process of accretion, is a question worthy of thoughtful consideration. An overloaded curriculum is not the guarantee of a useful one.

The history of the development of the college whether for men or for women, like the history of the church or of the state, shows different stages along the way of development differentiated, if not prolonged, by the hard and fast notions of final perfection which each age grafts upon an institution. With the changing ideals of

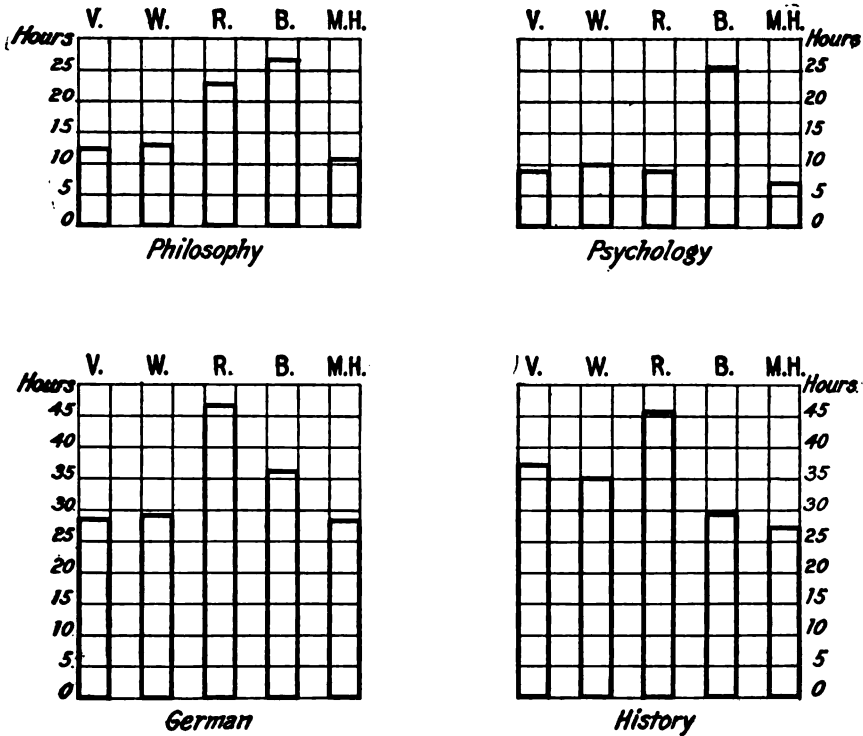


FIG. 5.—Comparison of the number of hours given to history, German, philosophy, and psychology, at Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke.

women's needs, the college has added courses to the curriculum, increasing it in the direction from which the demands have come. At the same time it has held conservatively to all its original subjects. Rarely has a course been dropped, and, with the exception of domestic science, never a department; but constantly courses are added, and not infrequently new departments, by the biological process known as budding, develop and are separated from the original source. The criterion of the new work supposedly is that of Flexner's standard, whether an affirmative case can be made out for it. As a matter of fact, the affirmative case is obviously a strong one for mo-

the work which has grown up since the foundation of the colleges. The history and economics group with its social significance, and the science group with its connection with the world's progress are examples of subjects which need no protagonists to prove their virility and worth.

Whether as clear a case can be made out for the old disciplinary studies which continue to hold their own in the curriculum even to the extent of composing much of the required work is more doubtful. The highest function of education is avowedly to produce a social individual; moreover, an *actively* social individual. The college, guided conservatively by the old guard which admits no aim except in terms of culture, adjusts itself slowly to the socialization of education. The possibilities of woman as a social individual have perhaps been too recently recognized for any adequate adjustment in college preparation. The recognition of the new possibilities, however, with their accompanying needs, is the tool which will fashion a modern curriculum built on the admission that no final perfection can exist for a college curriculum while humanity continues to change.

The growth of the curriculum of the woman's college has been marked by no particular originality; that is, the woman's college can not be pointed out as the source of any single tendency in the American college to-day. The history of the older colleges for men indicate that after the difficult period of the Civil War, the worst of the struggle was over, and the advance from that time was easy and rapid. Few women's colleges started early enough to feel the inhibiting effect of the Civil War. Able from the beginning to take advantage of the hard won experience of the older colleges they have incorporated into the American colleges as yet little which could be designated as their original contribution. Their great increase in size and wealth points toward the conserving power of safe imitation.

The growth of the curriculum has been as startling as any other form of development in the college. It has been most spectacular, perhaps, in the department of history, which either did not exist at all or was of feeble dimensions when the colleges were founded, and which now offers a total of more hours in the five colleges studied than does any other department except English. Closely related to history, and growing out of it is the group of studies including political science, or government, economics, and sociology. A frank response to modern demands, these departments are significant of the new education.

The growth of English shows in the ramifications of the subject, the large number of subjects in each division, and the number of students who focus their work in the department. An interesting summary of the students according to their distribution by the group system at Radcliffe (in per cents) is as follows: I. Language, litera-

ture, fine arts, music—78; II. Natural sciences—6½; III. History, political and social sciences—8½; IV. Philosophy and mathematics—7½.

The natural sciences from obscure beginnings have grown to importance during the lifetime of the woman's college. Though never so largely elected as the arts, they have had double significance in the curriculum from their intrinsic value and as the source of the laboratory method of work.

The department of psychology from the impetus of the modern experimental method has developed from a branch of philosophy into a thriving department.

Courses in education have increased in number and importance as the secondary schools have become increasingly insistent upon good teachers until now some provision for the work is made in all of the five colleges.

With the opening of commercial relations with South America, Spanish has found a place in the curriculum.

A survey of the innovations into the original curriculum is, then, not discouraging. Never more on the defensive for its aim of "culture" only, the college has nevertheless modified its construction of the aim considerably since the early years of its existence. Under pressure of the eternal demand for practical knowledge, natural sciences, social sciences, practical language work, have been in turn held up by the college to the culture criterion, pronounced sound, and admitted to the curriculum. Departments in turn have tested course content by the same criterion and in turn have admitted new phases of it into the curriculum. The tendency toward the practical is realized in the efforts of the chemistry departments toward food analysis, sanitation, and industrial chemistry; of natural science departments in general toward producing students equipped to become investigators and to use science dynamically; of English departments toward begetting creative work; of language departments toward skill and fluency in the use of the foreign tongues; of history and economics departments toward giving the student a grasp of vital current issues.

With such historical encouragement, it is not reasonable to suppose that no further demands will be made or that they will not be met. Usually, it is safe to predict, the modification will begin within entrenched courses by a change in content to meet new needs. Such an evolutionary working basis for construction is fundamental to the realization of any relation between major studies and vocations. Further discussion of the possible opportunities for the curriculum to cooperate with and to reinforce the work of the graduate will be considered in connection with the interpretation of the relation between major subjects and vocations.

### III.—COLLEGE TEACHING.

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The analysis of the teaching force has made evident in the special departments the ratio of the number of hours taught to the teachers, an important factor in the efficiency of the teaching. The listed number of teachers, including assistants but not including members of the physical training department or teachers on leave of absence, in the different colleges totals in the following order: Radcliffe, 135; Wellesley, 125; Vassar, 108; Barnard, 96; Mount Holyoke, 85. The ratio of the total number of teachers of each college to the total number of hours offered by the college is as follows: Vassar, 1 teacher to 3.68 hours; Wellesley, 1 teacher to 3.93 hours; Mount Holyoke, 1 teacher to 4.78 hours; Radcliffe, 1 teacher to 4.90 hours; Barnard, 1 teacher to 4.91 hours. Another factor to receive some consideration in the evaluation of the efficiency is, of course, the size of the classes, which must necessarily be governed somewhat by the size of the student body. The registration of the colleges in 1915 is as follows: Wellesley, 1,512; Vassar, 1,125; Mount Holyoke, 791; Barnard, 733; Radcliffe, 688. The ratio of teachers to students is as follows: At Radcliffe, 1 teacher to 5.05 students; at Barnard, 1 teacher to 7.63 students; at Mount Holyoke, 1 teacher to 9.3 students; at Vassar, 1 teacher to 10.41 students; at Wellesley, 1 teacher to 12.09 students. The number of teachers possessing doctor's degrees in the different colleges is as follows: Radcliffe, 96; Barnard, 59; Vassar, 56; Wellesley, 54; Mount Holyoke, 38. The percentage of doctors in the teaching force of each college is as follows: Radcliffe, 71.1 per cent; Barnard, 61.4 per cent; Vassar, 51.8 per cent; Mount Holyoke, 44.7 per cent; Wellesley, 43.2 per cent. A fourth element in the evaluation of the efficiency of a teaching body depends upon a knowledge of the relative size of salaries paid at the different colleges. At present such a measurement is impossible to attain.

The lecture method of presenting material to classes is largely used in all of the colleges. Within the last decade, however, the laboratory method has crept over from the sciences into the arts to modify the formal lecture. Subjects such as history, English, and philosophy, now almost invariably have adopted schemes of conferences with the students which approximate the effort of the laboratory to secure individual reaction to subject matter. The conference consists usually of an interview between the instructor, or his assistant, and



the student, based upon some special piece of work which the student has accomplished, theme, report, or examination. The class lectures, meantime, may or may not be connected with conference discussion. Even in the sciences, the lectures are frequently of such an order as to be easily kept by the students in separate compartments from the laboratory work. The languages, of necessity, demand more immediate returns from the student of invested subject matter. These returns are usually in the form of recitations upon assigned work.

The last method is most clearly in line with the secondary school method to which the student is accustomed. Considerable difficulty is experienced by freshmen in their efforts to secure adequate notes during an hour of lecturing. As Prof. Copeland, of Harvard, remarks, "The lecture method succeeds in completely inhibiting any thought." Accustomed in high school to transfer to the teacher each day the results of his work, the college student finds some difficulty in organizing his copied phrases at the longer intervals between college examinations. The college classes which attempt to obviate such difficulties by frequent recitations, usually base them, after the manner of the secondary school, upon assigned work.

The crux of the situation, it is obvious, is in the secondary school. Special schools, such as the Ethical Culture School, the Phoebe Anna Thorne Open-Air Model School for Girls, the school proposed by Abraham Flexner, have succeeded in creating a method of handling the curriculum by which power of thought, rather than skill in the reproduction of others' thoughts, is developed. As Miss Sergeant states:

When girls who have used their minds creatively instead of receptively for seven years reach the lecture system, for instance, something spectacular is going to happen—something very like the famous meeting between the immovable body and the irresistible force.

The indisputable value of the lecture is as a means for the presentation of the results of scholarly research or creative thought accomplished by the instructor and unavailable to the student elsewhere. The comparatively few lectures possible under such a criterion would be extremely stimulating to the student. If, with such a limited lecture system, the seminar method were pushed down from the graduate school into the undergraduate classes, which were limited in numbers enough to make it possible, the college student who could think would be greatly benefited, and the student to whom such effort was impossible would find another field for her activities.

That the poorest teaching of a student's educative career is possible within the college is recognized by almost anyone who takes a degree. To remedy such a condition some supervision of college teaching might be of value. At present in none of the five colleges studied, and

only one of several other colleges investigated, is there, except rarely in individual departments, any system by which the work of the teacher may be judged by her equals or superiors. The usual criteria of success are the size of elective courses and the opinions expressed by students. In the long run the judgments of the students may average justice, but through youth and immaturity the students are naturally not infallible judges of fundamentals. Mature, unbiased consideration of an instructor's work is a fair basis for the verdict of its quality. From a purely economic standpoint, too, some system of supervision which could supply judicious and pertinent advice to the inexperienced though scholarly instructor might sometimes save a teaching life of incalculable possibility.

If, furthermore, the college teacher is to do constructive work, work which grows and changes under the impulse of her ideas, some means should be provided to prevent her present isolation. Very few college teachers know anything about the way in which their particular work is being conducted in other colleges. Segregation of intellect produces much the same result as segregation of species; other qualities than strength find special inducement to develop; cross-fertilization of ideas is often necessary for a good crop. A college teacher needs to know not only the results of the latest research in her subject, but the results of the latest effort to make it part of the social life of the student. Such knowledge would diminish, in part at least, the effects of inbreeding by which the young instructor reproduces in her classes as closely as possible, the teaching which she has earlier received at the college.

The three suggestions, then, which concern college teaching are, first, a more general use of the seminar method where the laboratory is not the working basis of the course; second, a system of supervision which will permit a fair evaluation of the work of the instructor; third, a closer correlation between the members of the faculty of different colleges for purposes of exchange of ideas and invigoration of method.

#### IV.—THE RELATION BETWEEN MAJOR STUDIES AND VOCATIONS.

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The material used in working out the relation between the major studies of students and their vocations later is of two kinds:

(1) The data obtained from the application cards which a graduate fills upon joining the Intercollegiate Bureau of Occupations of New York City. From the cards of all registered alumnæ of Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke, regardless of the year of graduation, were copied the name of the graduate, her majors in college, and her vocation or vocations since graduation. Thus a mixed group, consisting of 261 graduates of five colleges, was obtained, which was a unit in but one respect, dissatisfaction with the present job and desire for different work.

(2) To check up this group it seemed only fair to select an entire class throughout the five colleges which would give the same data of majors and vocations without the bias toward desire for change. The class of 1912 was chosen as a class near enough in time to the present curriculum to make the connection with it fair, and far enough away in time to permit the members who intended to work at all to get some kind of a position. The data concerning the vocations of the second group were obtained from the cards sent out to the graduates of women's colleges by the Association of Collegiate Alumnæ. The data concerning the majors of the same students were supplied by the officers of the separate colleges. Since Radcliffe College had no convenient records, the questionnaire method was used in that one instance.

While Vassar and Radcliffe have no formal system of majors, the subjects to which the student gave most hours in her course served the purpose of majors. Note was made of all the vocations into which the graduate had entered.

The major studies were considered completely correlated with the vocation if (1) the vocation made use of all the major studies; or (2) the vocation made use of one major but called for no other college subjects. Graduates making such combinations are termed for convenience complete correlates.

Partial correlation consists of cases: (1) If the vocation does not make use of all majors and at the same time does use other college subjects; (2) If the individual has at some time in some vocation

used at least one major. Graduates making such combinations are termed partial correlates.

Noncorrelates are a group made up of graduates whose vocations make no use of their major studies.

It must be clearly understood, on the one hand, that complete correlation does not mean that because of correlated majors the individual is doing the best possible work; it means only that as far as the college is concerned if the choice of majors has been intelligent, the preparation has been made as adequate as possible. The only criterion of the work would of course be the results produced by the individual.

No correlation, on the other hand, does not mean that the individual has taken no college work bearing on her subject. She may have taken a course or two, but she has not chosen to major in the particular field which later she has apparently found most important to her.

It is obvious, too, that college work, though not correlated at all with the vocation, may help an individual to an incalculable degree in affording broadness of outlook, wisdom of judgment, and insight into new possibilities of her vocation. As a matter of fact, it is impossible to get through college without taking other subjects than those correlated with the vocation. Since, also, most colleges require a student to choose major subjects on some basis, it is possibly no more narrowing to make the choice on an intelligent basis than on no basis whatever.

For several reasons it is possible that complete correlation between majors and vocation may bring about entirely unsuccessful results, as is illustrated by the Intercollegiate Bureau cases where, though the work shows correlation with the majors, it has nevertheless proved unsatisfactory enough to force an attempt toward change of occupation. An accidental choice of majors in college may be one reason for failure. The student continues with Latin, for instance, because by adding a little more to the prescribed amount she can teach the subject. That is, the vocation is chosen to fit accidental majors. Obligated by the demands of employers to present preparation of some kind, she must choose prospective employers by her marketable preparation on hand at graduation. The fact that the greatest amount of complete correlation is found at the colleges offering greatest freedom of election, suggests that students may continue blindly in prescribed work in the other colleges.

Again, complete correlation may be unsuccessful in cases where there is little native ability. To illustrate, a student who has majored in English and zoology may write a book on zoology which is wholly worthless. If, however, some native ability were present, the book would probably stand a better chance of success if the writer

had a scholarly grasp of zoology and a knowledge of her mother tongue.

It is also possible that the combination of no correlation between majors and vocation may be entirely successful. In the first place, the technical training for the alien vocation may have been acquired wholly after graduation. In many cases at least a partial preparation could have been made in the college, as will be pointed out later in the discussion of occupations.

In the second place, excellent native equipment may make success in a new field possible without the running start gained by correlated college work. It seems, however, a waste of power to use it on details of preparation which should by that time be reduced to the state of reflex action.

The data regarding the alumnae registered at the Intercollegiate Bureau of Occupations will be dealt with first. This group, as well as the group of the class of 1912, is divided into teachers and non-teachers; the proportion of 45.6 per cent of teachers registering at the Intercollegiate Bureau, and 54.27 per cent of teachers in the working section of the class of 1912 seemed to justify such a differentiation. The teachers of the Intercollegiate Bureau group are divided into teachers at date: i. e., those for whom the bureau has as yet found no other occupation; and former teachers: i. e., those who through their own efforts or those of the bureau have succeeded in leaving the profession. Many applicants do not register for any specific kind of work and do not know what kind they want. Sometimes the application is based on the desire to get out of the teaching profession, sometimes on the wish for higher salary, sometimes on personal or family reasons. The large number in the group of teachers desiring a change of occupation would suggest that the profession had been a matter of economic determinism or of accidental opportunity rather than the result of prolonged deliberation leading to conviction of fitness for the work; also, that the field may be one into which an untrained graduate could enter most easily and would, therefore, serve the convenience of the woman who hopes to make it only a stop-gap between graduation and marriage. The size of the teaching group desiring change, however, points toward a fallacy in the belief expressed lately by two college presidents that teaching is the only really desirable occupation for women.

The total number of 261 graduates registered at the Intercollegiate Bureau is divided among the five colleges as follows: Vassar, 85; Wellesley, 53; Radcliffe, 13; Barnard, 65; Mount Holyoke, 45. The small number of Radcliffe graduates may be due to the fact that many of the students are drawn from Boston and the suburbs, thus making the Boston office of the bureau a more desirable place of

registration for them. The number of representatives of each college is used as the base on which the percentages of that college are reckoned. The appended table of percentages is also expressed by the accompanying graph.

TABLES OF CORRELATION FROM INTERCOLLEGIATE BUREAU DATA.

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
Representatives from each college.....	85	53	13	65	45
Complete correlation (in percentages).....	23.53	28.30	23.07	10.77	31.11
Teachers at date.....	4.70	9.45	7.69	6.15	13.33
Former teachers.....	8.23	13.20	15.38	1.53	11.11
Nonteachers.....	10.58	5.66	.....	3.07	6.66
Partial correlation (in percentages).....	30.58	15.09	30.76	13.84	20.00
Teachers at date.....	14.11	8.77	15.38	7.68	4.44
Former teachers.....	4.70	7.54	.....	1.53	8.88
Nonteachers.....	11.76	3.77	15.38	4.61	6.66
No correlation (in percentages).....	45.88	56.60	46.15	75.38	48.88
Teachers at date.....	2.35	5.66	.....	16.92	13.33
Former teachers.....	5.88	7.54	15.38	6.15	8.88
Nonteachers.....	37.64	43.39	30.76	52.30	26.66

It can be readily seen that noncorrelates furnish much the largest group in each of the five colleges represented at the bureau. This condition might suggest the desirability of correlation in order to increase satisfaction in the occupation, if besides the noncorrelates we did not have a considerable percentage of correlates who also wish other work. An analysis, however, of the correlates shows that they are largely from the teaching profession. Logically, then, it is possible to conceive that had the choice of majors been determined by real aptitudes the profession into which such preparation led would not be so largely rejected. If the noncorrelates and the people who have attained correlation only through the teaching profession were withdrawn, the bureau would have little reason for further existence as far as the five colleges are concerned.

Much the largest single group in all of the colleges is the section of nonteachers showing no correlation: At Vassar, 37.64 per cent; at Wellesley, 43.39 per cent; at Radcliffe, 30.76 per cent; at Barnard, 52.30 per cent; at Mount Holyoke, 26.66 per cent. Such a group suggests that the permanent interests of its members are outside both of teaching and of their major work at college; that therefore it might have been economy to have presented to these individuals before graduation a variety of occupations for consideration; and that had such opportunity been supplied, the individuals might have chosen college work more in harmony with their vocations.

To obviate some of the waste connected with the efforts of such a group as the Intercollegiate Bureau registers to find a congenial

occupation, the college needs to hold itself somewhat responsible. This responsibility could express itself first in giving to students help in finding interests affiliated closely enough with their aptitudes to give prophecy of some permanence. If vocational guidance is necessary for mature women who have been at work, it might help the undergraduate who knows nothing of the opportunities open to her nor the prerequisites of such occupations. Second, as will be demonstrated later, the college might give the student who is doubtful as to her calling the benefits of trying out a few possibilities in regard to work. Third, it could emphasize the need of intelligent choice of major subjects, allying them with interest and aptitudes.

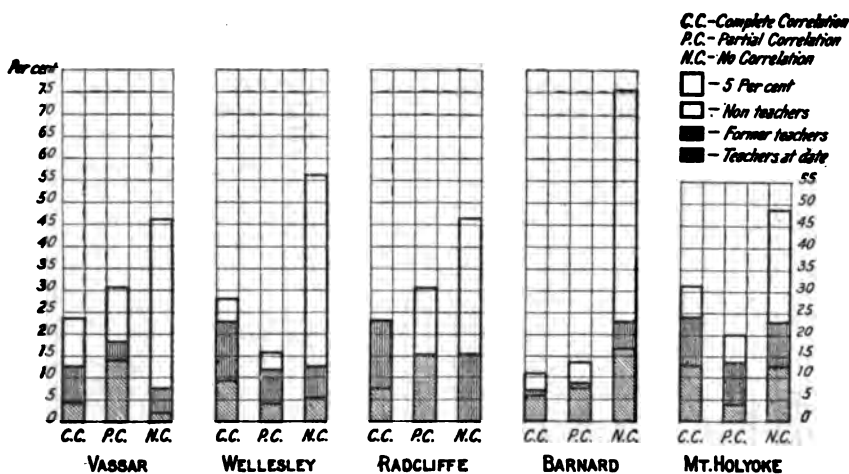


FIG. 6.—Correlation between majors and vocations (Intercollegiate bureau).

The reduction of the large body of college trained women who are drifters is a question of deep significance to Americans, whose girls are crowding increasingly to the colleges, and are increasingly demanding work upon graduation.

The most significant group of women in occupations other than teaching is the group of secretaries. Of the 261 alumnae registered at the Intercollegiate Bureau, 37.5 per cent enter into secretarial work. Probably the placement of some of the women still teaching will tend to raise the percentage. At all events, 50 per cent of the registered alumnae of the five colleges in occupations other than teaching are secretaries. Of these secretaries only 13.75 per cent show any correlation with their major work at college. Usually the special preparation necessary for the work has been obtained through typewriting and stenography courses at business schools. Such preparation, compared with that required by many vocations, is easy to acquire.

This comparative ease of preparation probably accounts in some degree for the number of people who enter the work. The obvious danger threatening secretaryship is one which has weakened the teaching profession, namely, the danger of overcrowding. It is scarcely likely that out of a group of 261 women earning their living, nearly 100 of them are peculiarly fitted to this one occupation. It seems much more likely that the motives which have produced so many teachers are at work again, ease of entrance into a field which has become conventionally respectable for women.

Since, however, it is possible to enter secretarial positions without such technical training as that offered by Simmons College, the candidate might as well get such preparation as is required earlier in her career. The small percentage of secretaries who have correlated

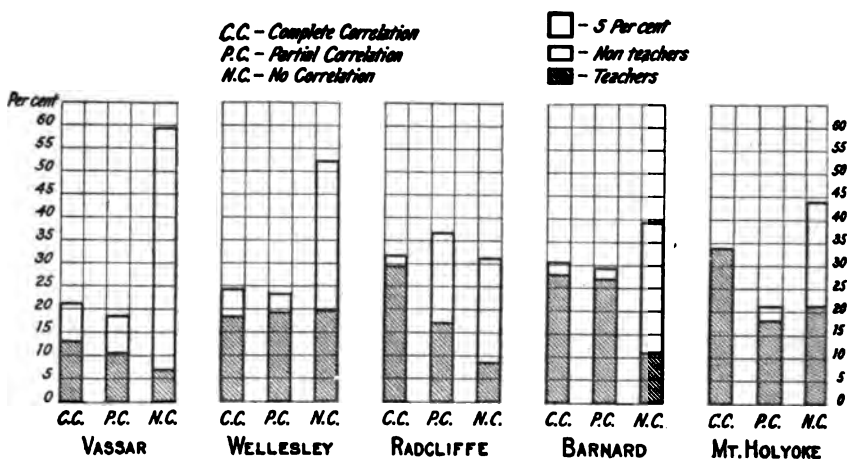


FIG. 7.—Correlation between majors and vocations (class of 1912).

their majors and vocations points toward the need of some adjustment. That much work of secretarial value could be accomplished earlier will be pointed out later.

Other occupations into which the alumnae have entered are the following: Library work, writing, business, scientific research, institutional management, social work; all of the preceding claiming small groups; and acting, photography, interior decoration, medicine, translation, each of which has one representative. The group of social workers is small because now such work is turned over to the department of social workers, a branch of the Intercollegiate Bureau of Occupations.

It is perhaps needless to add that many fields other than those already mentioned are open to college graduates. An opportunity of acquaintance with those fields might serve to distribute women among them more equally.



*Class of 1912—Tables of correlation (in percentages).*

	Vassar.	Wellesley.	Radcliffe.	Barnard.	Mount Holyoke.
<b>Complete correlates.....</b>	<b>21.17</b>	<b>24.25</b>	<b>31.90</b>	<b>31.32</b>	<b>34.02</b>
Teachers.....	13.10	18.30	29.80	27.70	34.02
Students.....	5.26			2.40	
Social workers.....		1.48			
Writers.....	.65	.49	2.10	1.20	
Scientists.....	1.38				
Secretaries.....		.99			
Artists.....	.65				
Curators.....		.99			
<b>Partial correlates.....</b>	<b>18.42</b>	<b>23.26</b>	<b>36.10</b>	<b>29.91</b>	<b>21.64</b>
Teachers.....	10.50	19.30	17.00	26.50	18.55
Students.....	1.38	.49	4.20	2.40	2.06
Social workers.....	5.26	2.97	4.20		1.03
Writers.....			8.50		
Scientists.....		1.48	2.10		
Secretaries.....					
Artists.....	.65				
Curators.....		.99			
Business women.....	.65				
<b>Noncorrelates.....</b>	<b>59.80</b>	<b>52.40</b>	<b>31.60</b>	<b>39.70</b>	<b>44.30</b>
Teachers.....	7.20	19.80	8.50	10.80	21.60
Students.....	17.10	1.40	2.10	3.60	1.03
Social workers.....	28.30	20.20	4.20	9.60	5.10
Writers.....		1.40			1.03
Scientists.....			2.10	3.60	2.06
Secretaries.....	5.20	5.40	6.30	9.60	8.20
Librarians.....	1.30	2.40	4.20	2.40	5.10
Business women.....		1.40	4.20		
Farmers.....	.60				
<b>Number of those in vocations.....</b>	<b>152</b>	<b>202</b>	<b>47</b>	<b>83</b>	<b>97</b>

The data regarding the class of 1912 of Vassar, Wellesley, Radcliffe, Barnard, and Mount Holyoke are presented in the form of a table and a graph. The 780 records are distributed as follows: Vassar, 242; Wellesley, 202; Radcliffe, 558; Barnard, 118; Mount Holyoke, 163. To secure the exact percentages of alumnæ in different occupations, the total number of individuals at work in each class was used as the base instead of the total membership of each class. Such reckoning necessitated, therefore, disregard of the group which announced itself as having no vocation, the group of married women which with the exception of one member admitted no vocation beyond "wife of husband," or "mother of child," and the small group from which specific information about subjects taught could not be extracted. Vassar records 14 per cent of the members of the class of 1912 as having no vocation, 12 per cent as married, and 7 per cent as unclassified, leaving a base of 152 working members. At Wellesley, all but the working members were discarded at the collection, leaving 202 out of a class of 255 for a base. Barnard has 10 per cent of members with no vocations, 6.7 per cent married, 12 per cent unclassified, leaving a base of 83 workers. Mount Holyoke has but 5 per cent with no vocation, 6 per cent married, 6 per cent unclassified, leaving 97 working members. Radcliffe returns, which depended up

questionnaire, resulted in replies from married and working members only, giving the result of 10 per cent married members and a base of 47 working members. The 1912 class record announces most of the members who failed to reply as "At home."

One of the points made apparent by the data is that one of the chief functions of the woman's college, now, as in the original intentions of the founders, is to turn out teachers. An analysis of the 54.2 per cent, which represents all of the graduates in the teaching profession, shows the distribution as follows: Vassar, 30.8 per cent; Wellesley, 57.4 per cent; Radcliffe, 55.3 per cent; Barnard, 65 per cent; Mount Holyoke, 74.37 per cent.

A marked coincidence between the teaching profession and complete correlation is noticeable. Mount Holyoke, which turns out the largest number of teachers, succeeds in keeping the highest per cent of complete correlates, which by the way are numerically coincident with the teachers. Since, then, the teaching profession, to a far greater degree than any other, permits correlation with the work within the college, we find in this one vocation at least a unity of preparation and function which, if it secures the permanent benefit of the individual is a state toward which the other vocations should strive. If, however, the 46.6 per cent of teachers applying for other work at the intercollegiate bureau is any prophecy of the future of the class of 1912, we are safe in assuming that for some members at least the permanent benefit will not be found in the teaching profession. It is scarcely likely that over half the graduates of five women's colleges have peculiar aptitude for the teaching profession any more than that half of the registered alumnae of the five colleges at the intercollegiate bureau have peculiar aptitude for secretarial work, or that half the graduates of any five men's colleges have either aptitude or desire for any one vocation.

One group, however, both in the class of 1912 and at the intercollegiate bureau, is larger than the group of teachers. Except in Radcliffe, 1912, the noncorrelates outnumber any other section. A comparison of the two graphs shows that except at Vassar, the proportion of noncorrelation is increased in the intercollegiate group over that of the 1912 group. A possible interpretation of the change in proportion might be that noncorrelation of vocation is one reason for dissatisfaction with the vocation and desire for a change. Here the coincidence is between no correlation and occupations other than teaching.

Nearly half of all the class of 1912 of the five colleges are noncorrelates. An analysis of the group as a whole shows 34.37 per cent engaged in social work, 29.58 per cent in teaching, and 13.2 per cent in secretarial work, leaving the remaining 23 per cent scattered among the other professions. The three groups then, social work,

teaching which is not correlated with college work, and secretarial work, will be dealt with separately.

Of the social work, Vassar and Wellesley furnish the large proportion. Of all of Vassar's 1912 workers 34.2 per cent are in social work; about seven-eighths of these show no preparation for it in college majors. At Wellesley 24.65 per cent of the class are in social work, and a little less than four-fifths of them have made no special preparation for it. The other three colleges have comparatively few social workers. The small proportion of cases showing correlation between social work and college courses points toward the inference that girls drift into this work, often unpaid, largely because it can make use of unskilled labor. Because organized philanthropy demands trained workers does not prevent a large amount of so-called social work being attempted by the clumsiest of beginners. If a girl sees ahead of her a life of usefulness in the social field, or even a chance of eking out an otherwise inactive existence by social work, she might gain a possible efficiency through preparation by courses in economics, sociology, statistics, etc., known as social science courses. If she attends a college near a large city—in this group Vassar and Barnard have the advantages of New York, and Wellesley and Radcliffe of Boston—she should be able to take part of the work toward her degree at some place within the city authoritatively recognized as a laboratory for social work. In this way a practical preparation for work would be gained without the added expense or time of post-graduate training which many students are unable to afford. At present Barnard College is the only one of the five which offers such an opportunity to its students. A Barnard student by taking some of the work of the New York School of Philanthropy in her senior year may count the work toward her college degree and the same time anticipate part of the requirements for the diploma of the School of Philanthropy.

The second largest group of noncorrelates, the teachers, is, it is probably safe to assume, made up of women who would prefer, since teaching and studying are closely allied, to teach subjects which they had studied intensively. Beginners in the profession doubtless often have no choice of subjects, though it seems a pity to try out a novice by giving her the additional handicap of subjects with which she is more or less unacquainted. Since, however, many of the older teachers registered at the bureau had no correlation of subjects taught with those studied, it seems in some cases at least difficult to make any transition after the stamp of experience has been set on subjects once taught.

In order to find out if there was any possibility of predicting the combinations of subjects which the secondary schools demand of their teachers, an analysis was made of the subjects taught by :

the teachers of the class of 1912 and of the teachers registered at the bureau. A uniformity of demand by the secondary schools with a recognition of the required combinations by the college might do much toward placing the teacher in her own field.

## COMBINATIONS OF SUBJECTS TAUGHT.

English with—	Times.	History with—	Times.
History.....	29	Government and economics.....	2
Mathematics.....	7	English and economics.....	1
Latin.....	6	English and German.....	2
Latin and history.....	4	English and French.....	1
Latin and French.....	2	Art and Latin.....	1
History and German.....	2	Greek.....	1
German.....	3	Latin with—	
French.....	2	German.....	8
French and mathematics.....	2	History.....	7
Latin and mathematics.....	1	English.....	6
French and German.....	1	Mathematics.....	5
French and history.....	1	Mathematics and history.....	5
Psychology.....	1	English and history.....	4
French with—		French.....	3
German.....	8	French and German.....	3
History.....	4	French and English.....	2
Latin.....	3	Greek.....	2
Latin and German.....	3	Biology.....	1
Latin and English.....	2	History and German.....	1
English.....	2	History and art.....	1
English and mathematics.....	2	Mathematics and English.....	1
English history.....	1	Mathematics with—	
English and German.....	1	English.....	7
German and science.....	1	Science.....	7
German and mathematics.....	1	Latin.....	5
Mathematics.....	1	History and Latin.....	5
German with—		German.....	4
Latin.....	8	History.....	3
French.....	7	Physics.....	2
Mathematics.....	4	Biology.....	2
English.....	3	French and English.....	2
French and Latin.....	3	French and German.....	1
English and history.....	2	French.....	1
History.....	1	Education.....	1
History and Latin.....	1	Latin and English.....	1
Botany.....	1	Biology (a combination of zool- ogy with botany).....	4
French and science.....	1	Biology with mathematics.....	2
French and mathematics.....	1	Biology with hygiene.....	1
French and English.....	1	Biology with Latin.....	1
History with—		Biology with physics and chemistry.....	1
English.....	29	Biology with physical geo- graphy.....	1
Latin.....	7	Zoology with geology.....	1
Latin and mathematics.....	5	Botany with German.....	1
Science.....	5		
Mathematics.....	4		
Latin and English.....	4		
French.....	4		

Chemistry with—	Times.	Physics with—	Times.
Mathematics.....	1	Mathematics.....	1
Physics.....	1	Chemistry.....	1
Physics and biology.....	1	Chemistry and biology.....	1
Science.....	1		

Specialized teaching, i. e., cases in which the teacher has but one subject; from class of 1912 and data from Intercollegiate Bureau. Teachers whose work has correlation with their college majors:

Correlates teaching one subject:			
English.....	43	Chemistry.....	3
Mathematics.....	20	Music.....	1
German.....	11	Hygiene.....	1
Latin.....	10	Physics.....	1
History.....	9		
French.....	7	Total.....	109
Botany.....	3		

Teachers whose work has no correlation with their college majors:

Noncorrelates teaching one subject:			
English.....	5	Physics.....	1
History.....	4	Physical geography.....	1
Domestic science.....	3	Zoology.....	1
Drawing.....	1		
Geology.....	1	Total.....	18
Mathematics.....	1		

The results appended show a discouraging degree of variety. The most frequent combinations with mathematics are science, English, and Latin. With Latin, the most frequent combinations are German, history, and mathematics; French most often combines with German; but German combines with Latin in one more case than with French; history, besides the English combination, is taught most often with Latin. Botany and zoology are seldom separated; they appear as biology, sometimes as one combination, sometimes in unpredictable combinations with other subjects. The combinations required of the 1912 teachers tallied with those of the Intercollegiate Bureau almost exactly in order of frequency of occurrence.

A census then was taken of the teachers who were able to specialize to the extent of teaching one subject, with the interesting results that while 109 correlates taught one subject, only 18 noncorrelates were able thus to specialize. Of the subjects, English was most frequently taught by itself.

A not impossible ideal for the preparation of teachers might be a condition by which the student could combine the subject in which she is most interested with work in the department of education on the way to teach that subject. At the same time, it should be possible for her to have access to knowledge of the teaching combinations which may be required with her particular subject, and t

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allowance for them in her choice of courses. If the secondary school would supply greater uniformity of demand, and the college would recognize the amount which already exists, the career of the young teacher would be less difficult. If the college would recognize the amount of uniformity which already exists in the demand upon secondary teachers, it might, in the first place, turn out teachers who could with greater ease and success fit into their new work. The college might, in the second place, succeed in increasing the amount of uniformity of subject combination in the secondary schools by supplying better prepared teachers and by exercising care in placing them. Small high schools must require large groups of subjects of their teachers, but if the teachers are specially equipped with a combination of subjects recognized by large schools, they will stand a better chance of advancement in their profession.

The relation of the department of education to the rest of the college and to the teaching profession has been a matter of interest from the first installation. The department has met with much opposition and has until the last decade grown slowly. Of the five colleges, Vassar is the only one which still denies the need of a department of education. At present in the other four colleges the anomalous situation exists of recognized vocational preparation in one direction, while it is frowned upon in others. The work, however, is frequently made general in order to accomplish a cultural end.

Having decided upon the combination of subjects which she desires to teach, the student should be able to take in the department of education a seminar dealing especially with problems concerned with this group of subjects. In connection, also, with the department, she should be directed to secondary schools where she could see her subjects ably taught. These two methods of practical laboratory work would help obviate the difficulty of the beginner in modifying and adjusting her college work to secondary needs. The objection to so-called normal methods is invalid, since the full content of the college courses is given to the student in each department from which she elects work regardless of whether she teaches it or not. The time given to the vocational side of her subject would be limited to her senior year and would probably occupy less time and give more permanent results than many of the present senior activities.<sup>1</sup> Since the college actually turns out a large proportion of its students as teachers, since a placement bureau for teachers is part of its equipment, since a possessor of the college diploma is

<sup>1</sup> The reaction of the schoolmen who employ college-trained teachers was expressed by the exasperated protest of the Superintendents' Association in Boston in 1915. The superintendents seemed, on the whole, to have reached the limit of their endurance with what they termed "the raw A. B." The solution which they offered is of interest; that is, practical service in teaching during the college course to be counted as points toward the degree.

recognized as a suitable candidate for a teaching position, the support of a department of education and a knowledge of its policy by the college seems highly desirable. At present the colleges recognize bitterly the inadequate, meager preparation of the students who enter from secondary schools. They fail, however, to make the logical connection between themselves and that lack of preparation; they have trained the teachers for those schools. Some part of the remedy, at least, rests in their assumption of their responsibility for that training.

The third group of noncorrelates, the secretaries, is considered not only because of its size in the 1912 classes, but because from the Intercollegiate Bureau data secretarial work appears to be the vocation into which ex-teachers largely go. Over 45 per cent of former teachers who were correlates and 57 per cent of former teachers who were noncorrelates became secretaries.

Like social work, secretarial work appears upon an analysis of its requirements to be closely allied with the regular college courses. The course of secretarial studies given by the extension teaching of Columbia University for college graduates lists the following subjects: Stenography, typewriting, Spanish, contemporary literature, history, secretarial bookkeeping, typography, and an adequate training in French and German. The demands of English are ease and clearness of diction; "for to write accurately what one thinks must always be one of the prime requisites of a secretary."

It is obvious that such a course might be shortened by the student who had decided upon the vocation of secretaryship, if she had in mind the requirements. Election of the languages, literature, and history would cover the academic preparation. The fulfilment of the English demand is greatly to be desired of all students. Of the technical training, typewriting has become not only a convenience but a necessity in so many fields that any student would do well to acquire it. Typewritten college work would be a boon both to the student and to the instructor. One method of obtaining it has been secured at the Connecticut College for Women by providing a room equipped with typewriters which the students are free to use at any time. Stenography studied during vacations could offer no better opportunity for expert practice than that provided in the lecture room of the college.

Secretarial bookkeeping and typography then are the only classes which require special technical preparation. The student who wished to enter upon her vocation upon graduation could probably in the nine months of vacation of her college course acquire such extra work.

If after making the suggested preparation in any one of three fields of teaching, social work, or secretarial work, the

ate changes her desire for that occupation, nothing is lost. On the contrary, she is the gainer in first-hand knowledge of social and economic conditions which make for good citizenship; in a scholarly grasp of a group of subjects and a confidence in herself in her ability to handle facts; or in ability to make language her tool. In the meantime she has had the stimulus toward real work in college which is supplied in the professional school by what Dr. Eliot calls the life-career motive.

To suggest a way in which such a motive can be supplied early enough in the college course of the student to permit thoughtful choice of vocation and intelligent correlation of studies is the subject of the next chapter.



## V.—THE SOCIALIZATION OF THE WOMAN'S COLLEGE.

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The study of the curriculum through its development and in its present state, and of its relation to the individual to whom it has served as a means of education for four years, has brought out with emphasis certain considerations which concern both of these factors. To sum them up briefly into two groups, the first consideration includes the possibilities of the individual, the second the potentialities of the curriculum in its relation to the individual.

The college woman has disproved two fallacies, that her place is exclusively in the home, and that her place is exclusively in the school-room. Increasingly she has demanded work, and increasingly that work has become more varied in its character. The existing conditions are, then, larger groups of college-trained women entering occupations each year, and a greater number of occupations opening to receive them. Furthermore, these new vocations do not open automatically with the increased number of applicants, but only as pioneers prove successful in them.

If college women are to continue their efforts and their successes—and there seems no predictable barrier except an entire social setback—the college must take upon itself a new responsibility, that of providing society with something which more nearly approximates its maximum working efficiency. To quote from Woods: "Society is suffering less from the race suicide of the capable, than from the nonutilization of the capacities of the well-endowed."<sup>1</sup>

If women congregate in numbers in one or even a few professions, the chances are against the utilization of the highest capacity of the individual. She is probably not in the field because it is the one peculiarly fitted to her aptitudes. The reasons for the selection of her career, if it is a majority career, may be based on the contagion of imitation, on the ambitions of her parents, on financial pressure, on the ease of entrance, or on lack of knowledge of other opportunities. None of these motives is essential to success. Given a knowledge of other opportunities, however, with a conviction of aptitude for a particular one of them, and no one of the other reasons will probably be powerful enough to determine choice.

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<sup>1</sup> Woods, Erville B. *American Journal of Sociology*, November, 1913.

Lester Ward, the sociologist, believes that two factors are essential to successful achievement, first, intellectual capacity and moral character, and second, opportunity. To provide the opportunity has become a definite problem of the college, an issue which it has shown a tendency to avoid by the plea of the value of general culture and of the all-round person. "The defect of this ideal (culture, breadth, and the all-rounded person)," says President Maclaurin, "is that it does not supply a motive strong enough to be effective for the young people of the present day."<sup>1</sup>

In the efforts to realize the ideals of general culture and an all-round existence, the college girl dissipates her energies over wide and frequently desert areas, and forms habits which are not conducive to concentration either of thought or purpose. With no motive strong enough for a driving force toward an attack on her work, she frequently orders her energies toward repelling the attacks which the work makes upon her. The modern demands of specialization no longer put a premium upon that product with which the woman's college abounds, the average student. At the end of the period during which, irrespective often of any special effort or direction on the student's part, she has received a cultural education, she finds herself confronted by a very specific and imperative question: What is she going to do with the rest of her life? The postponement of her decision brings to her certain inexorable results: She is usually without time or opportunity to find out about the fields of work open to her; she is hurried into an occupation which she has had no chance to investigate or test with relation to her abilities; she, and through her, society, are deprived temporarily or permanently of the utilization of her capacities.

To such individuals the college is responsible to the extent of providing opportunity to select careers, and education which will have some bearing on the successful pursuit of them.

Something must happen to each and every one of them that gives him some glimpse of his future life and arouses his ambition to strive for it. As Prof. Cooley says, "A man can hardly fix his ambition upon a literary career when he is perfectly unaware, as millions are, that such a thing as a literary career exists." A clear vision of a congenial field is that one fundamental circumstance in anyone's career.<sup>2</sup>

Provision of a clear view of a congenial field is, then, a primary consideration in the problem of the utilization of the capacities of the individual. Given the inevitability of work, or, if that is not granted at large, at least the unquestionable desirability of it, the issue becomes vital to the degree of demanding preparation quite as much as the issues of the care of the body and the use of the mind.

<sup>1</sup> Maclaurin, Richard C. Address to National Educational Association, Boston, 1910.

<sup>2</sup> Ward, Lester F. Applied Sociology.

Given the eternal principle of human variation, and, as a result of its insistence, variation in fields of work to meet it, again a vital issue demands attention. The factors of the problem resolve themselves then into acceptance of a life of work for the individual as a useful member of society, recognition of variation in human capacities, and of variation in possibilities of the utilization of those capacities.

The solution of the problem should be a matter of consideration early in the college course of the student. The freshman year as a point of departure offers two disadvantages: First, the student is too absorbed by the novelty of her situation and by the process of mental and spiritual adjustment to it to allow any residue of her attention for her future; second, at least one year of college work is an essential basis upon which to build a knowledge of the student. A year provides at least some slight indication of the work she does best. High-school work is too likely to be mechanical college preparation to constitute a fair criterion of real capacity.

At the opening of her sophomore year, however, the student enters upon a different phase of her educational development. A certain degree of adjustment has been essential to her survival, an acceptance of possible future demands upon her has come with observation of the graduation and dispersal of one class; she is at a critical point where she can be withdrawn into three years of absorption in concerns entirely unconnected with the outside world or where she can begin to take her part as a woman in permanent issues. At this period of awakening social consciousness, the girl is no longer a child. The risk of forcing her to an immature choice in presenting to her at the age of 20 the possible opportunities of her life is not great. Moreover, presentation of opportunity in no way implies irretrievable bonds to one occupation, but rather a chance for preliminary trials of strength in different forms of contest. That greater freedom is henceforth permitted the student in her choice of electives implies that the college recognizes her as a responsible being, and should logically imply an obligation on its part to give her a basis for her choice.

Suppose, then, in the sophomore year a course of regular academic standing is offered, the content of which is concerned with vocations open to women. The course should aim to present in connection with each field of work: First, an accurate conception of the special occupation and the group of coordinated occupations, e. g., secretarial work with its subdivisions into stenographers, clerks, bookkeepers, statisticians, registrars, etc.; second, the qualities demanded by the work; third, the preparation required in special outside courses and

*The Junior College function*

that acquired by intelligent grouping of college electives; fourth, the advantages and disadvantages of the occupation, including salary, hours, mental and physical demands, opportunities for advancement; fifth, its social significance. To supplement the unbiased presentation of the instructor, at least one successful representative from each main field of work should give to the class the results of her experience. A large body of alumnae stands behind each college as a committee available and competent to supply such a demand.

The laboratory work of such a course on vocations should be actual investigation. To illustrate, if a student is interested in salesmanship, she should look into the course given in preparation for the work, interview educational directors in the large stores and teachers of salesmanship in public schools for the first-hand information about the work, and make a report on the results of her investigation. If her interest proves permanent, some of her apprenticeship in store-work can be covered during vacation. If she decides that she prefers bacteriology or interior decorating, she has some real knowledge of conditions which she has gained while still in college as a basis for her change of choice, and she has not had to waste time after graduation in aimless drifting. She has, moreover, gained invaluable social education in her experience with the world's work.

Such a course on vocations offers an honest basis for vocational guidance. In but a small minority of young people is the natural bent strong. For the undetermined student, options must be offered before direct guidance can be attempted.

To supplement the course, however, and to supply more direct guidance, the instructor or counsellor should card-catalogue her students as carefully as a physician catalogues his patients. By accurate personal data, by recorded faculty reports, by information gained from all available academic and home sources, perhaps at some future time by psychological tests, such a complete record of the student should throw light on her particular aptitudes. Conferences based on sound impersonal data should aid the student to do three things: To make an intelligent selection of subjects from the curriculum; to develop self-insight without sentimentality; to find out what she wishes to do.

The present system of faculty advisors is vitiated because in spite of the good strategic position of the teacher, she is likely to be prejudiced by over-valuation of her own field through insufficient knowledge of other fields, and because her mode of living prevents her of necessity from possessing the view of life gained by participation in work outside of the academic world.

Through discussion with the different faculty members, however, the counsellor would have at her disposal the consultation with spe-

cialists which is essential for careful diagnosis. Such a diagnosis should include details of physical as well as mental capacity.

The counsellor must know by preliminary investigation through a background of research the resources and problems of vocations open to women. Through cooperation with men and women in occupations she would have current information regarding the vocations; at the same time she would provide the employers with knowledge of the possibilities which the college offers to them.

An important part of such a system of vocational guidance should be the follow-up work. Failure in a vocation may result not from incapacity, but from a wrong type of work in the right vocation. The beginner's school may be exceptionally difficult, her employer demanding, her library hampered by trustees, her chances for success weakened by perplexity as to causes of failure, since lack of experience affords her no key to the situation. The office of the college counsellor should be able to do much to tide over the difficulties of beginners.

Guidance by any one person is an egregious error and piece of effrontery on which is founded the current charlatanism of deserved disrepute. With one office, however, as a clearing house for contributions from faculty, parents, students, employers, both economy of effort and efficient administration of resources would be secured. In the final analysis the student becomes her own guide under the best conditions for efficiency that human experience can provide.

The consideration of any new system involves several features. In this case, the student, the college curriculum, and society.

Wherever the student has had the stimulus which President Eliot calls the life-career motive the effect on him has been wholly desirable.

Says President Eliot:

In every college a perceptible proportion of the students exhibit a languid interest, or no interest, in their studies, and therefore bring little to pass during the very precious years of college life. \* \* \* All of us adults do our own best work in the world under the impulsion of the life-career motive. There is nothing low or mean about these motives, and they lead on the people who are swayed by them to greater serviceableness and greater happiness—to greater serviceableness because the power and scope of individual productiveness are thereby increased; to greater happiness because achievement will become more frequent and more considerable, and to old and young alike happiness in work comes through achievement.<sup>1</sup>

President Eliot speaks of men, but his words are equally significant for women, who perhaps have more to gain by a life-career motive than men. Not only might the perceptible proportion of indifferent students be affected, but the percentage of "no vocations."

<sup>1</sup> Eliot, Chas. W. Life-career Motive in Education. Address to National Education Association, Boston, 1910.

might be lowered by a motive which concerned itself with helping the rich girl to greater service through achievement. A step might even be taken toward the solution of the problem of the married women who rust in disuse. John Dewey says:

A vocation means nothing but such a direction of life activities as renders them perceptibly significant to a person, because of the consequences they accomplish, and also useful to his associates. The opposite of a career is neither leisure nor culture, but aimlessness, capriciousness, the absence of cumulative achievement in experience, on the personal side, and idle display, parasitic dependence upon others, on the social side. Occupation is a concrete term for continuity.<sup>1</sup>

The objection to a claim for the need of careful choice of a vocation is the common dictum that women go into occupations only until they marry. In the light of Prof. Dewey's definition of a vocation, such an objection shows its triviality and irrelevance. An answer which might be yielded is that marriage would in no way lessen the values of a well-chosen vocation. The knowledge acquired and experience gained remain a permanent equipment which through choice or necessity may at any time be of active service.

A second objection to involving the college in vocational choice is the alleged lack of time. Under the present system a college student has nearly one-third of the year devoted to vacations. No able-bodied young woman needs or, if she has something better to do, desires so much time for recuperation. An abiding interest will call into service much of that time toward special preparation without injuring health or happiness. During the college year, too, a curriculum which provided for more experimental and less book work could require more time without risk of overwork.

If the student finds it possible and profitable to make between the curriculum and her future vocation a correlation which is conscious and intelligent, not accidental, she will demand certain standards of that curriculum. To be specific, the young woman who elects the profession of law, or medicine, or teaching, will have distinct aims in her courses in the history, economics, and government group, or in science, or in education and the subjects she wishes to teach. The young business woman will have a new interest in psychology, in sociology, in English, in modern languages, in whatever bears upon her chosen type of business. The student who wishes later to prepare herself for any form of domestic science and art work has a motive in selecting her courses in chemistry, biology, physiology, education, sociology, and art. Any vocation which would refuse to correlate in some degree with college courses would, if a reputable vocation, reflect severely on the quality of the college work.

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<sup>1</sup> Dewey, John. *Democracy and Education*, p. 358.

The effect of motivated demands upon the curriculum would be, first, to vitalize college courses by an enrichment of content and by the renaissance of the faculty; second, to unify courses by making them correlate with each other and with a definite future goal; third, to unify the faculty aim. This correlation of studies with vocations would tend to replace promiscuous absorption of courses for immediate academic purposes by original thinking on permanent issues. The unity between present and future work would supply a valuable economic and social asset by furnishing knowledge of the world's conditions and in consequence greater power to deal with them. Thus, even if the chosen vocation were never followed, it would in its effect on the individual provide the best disciplinary work possible.

The final factor, society, is inevitably involved, first, by any institution which can provide leaders; second, by any system which will help to give it the maximum working efficiency of its members; third, a corollary of the last, by any reduction of wastage. That a relation between the student and her college course can be brought about to help consummate such imperative ends has been the aim of this piece of work.

"Nurture does not consist in the mere coddling of the weak," says Ward. "It consists in freeing the strong." To enable a person to select and successfully pursue a career is setting free the strong to become leaders of the race.

The ideal of democracy, as realized in the college, too frequently expresses itself in an attempt to turn all intellects into the same mold. A more truly democratic treatment of much of our college material would be to deflect it into directions where it would count to some useful purpose through realization of a development impossible in the college. True democracy does not demand a college training for all, but an opportunity for the highest development of individual capacity. A system of vocational guidance will not only discover all possible uses of the college for the students who enter, but it will also discover cases of particular abilities to which the college can not minister, and will direct those cases into their necessary fields of preparation. The student who is now dismissed as "not college material," with all the humiliation of such dismissal, may then take her place creditably in some other field. By a discriminating choice of the student body, based upon quality rather than quantity, the college can perform a more truly democratic service to society in the development of leaders and in the offering of real equality of opportunity.

A student body charged with purpose and energized by a knowledge of principles behind society is ready to tender to the world the maximum of its power. The waste through failure, the through partial success which is just sufficient to inhibit effort

change but not enough to permit self-expression except outside the vocation, the waste by the social detachment of women debarred from work, all waste, as John Dewey says, is due to isolation.

His remedy is getting things into connection with one another so that they work easily, flexibly, and fully. The connection or organization which would encourage growth and prevent waste can be made at least in part by the college in relating its education intimately to life. This problem of unity is part of the call of the age. It is at the basis of the evolutionary ideas which have forced experimentation by laboratory methods into the college work, and it lies behind the present effort to secure unity of college and working life through the development of the one into the other.



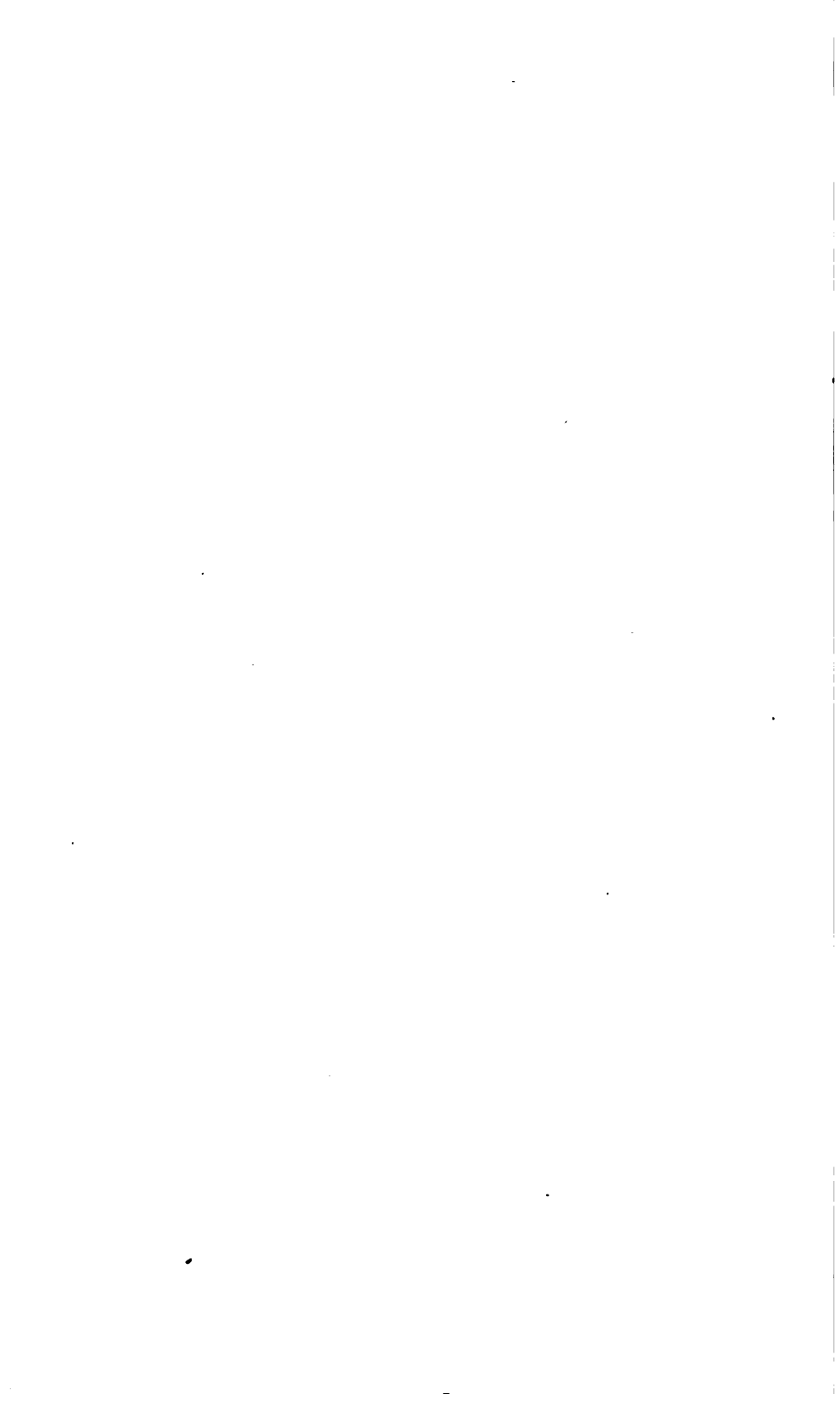
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DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 7

THE BUREAU OF  
EXTENSION OF THE UNIVERSITY  
OF NORTH CAROLINA

BY

LOUIS ROUND WILSON  
AND  
LESTER ALONZO WILLIAMS



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

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CONTENTS.—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—Scientific research—School administration—School management—School architecture—School hygiene and sanitation—Physical training—Play and playgrounds—Social aspects of education—Child welfare—Moral education—Religious education—Manual and vocational training—Agricultural education—Commercial education—Professional education—Civic education—Reeducation of war invalids—Education of women—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications.

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## NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of its publication.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

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## PROCEEDINGS OF ASSOCIATIONS.

212. **Florida educational association.** Thirty-first annual convention, Daytona, December 27-28, 1917. Florida schoolroom, 24:1-32, January 1918.  
Contains: 1. Agnes E. Harris: How the schools may help to win the war, p. 3-6. 2. H. R. Trusler: The teacher and the law, p. 8-13. 3. C. E. Howell: The place of the manual arts in the curriculum, p. 13-16. 4. J. D. Eggleston: The needs and the development of rural leadership, p. 17-23. 5. C. A. Hardee: What democracy demands of the public schools, p. 23-27. 6. W. A. Allen: Some methods of improving rural schools, p. 27-29.
213. **Missouri state teachers' association.** Proceedings and addresses of the St. Louis meeting, November 16-18, 1916. Bulletin Missouri state teachers' association, 3: January, April, 1917. (E. M. Carter, secretary, Columbia, Mo.)  
Contains: *January*, 1. Cora W. Stewart: Moonlight schools, p. 34-39. 2. Carter Alexander: Public opinion and the schools, p. 39-44. 3. M. A. O'Rear: Departmental work in the intermediate grades, p. 49-54. 4. M. V. O'Shea: Every-day traits of human nature, p. 56-59. 5. Alice M. Car-

malt: The enrichment of the teacher's life, p. 60-62. 6. E. L. Harrington: The place of science in the high school curriculum, p. 62-66. 7. W. K. Tate: Modern ideals in rural education, p. 66-72. 8. E. B. Bryan: The marks of an educated man, p. 80-85. *April*, 9. G. H. Beasley: Supervision of high school by the city superintendent, p. 15-19. 10. Carter Alexander: Standard tests as an aid in supervision, p. 19-27. 11. C. S. Parker: The value of scientific tests in the elementary schools, p. 42-45. 12. C. H. Hitchborn: The status of geography teaching in the elementary schools of the smaller cities of Missouri, p. 47-60. 13. H. L. Jones: The teaching of agriculture in the high school, p. 80-84.

214. **National education association.** Proceedings, 1917. Journal of the National education association, 2: 313-408, January 1918.

*Department of Business Education.*

Contains: 1. Cassie L. Paine: The teaching of salesmanship to high-school girls, p. 316-21. 2. E. F. Dahm: Modifications in commercial training suggested by present world-conditions, p. 321-27. 3. F. H. Young: How to teach salesmanship in the high school, p. 327-30. 4. J. A. Bezell: How can the higher schools of commerce best serve the high schools? p. 334-39.

*Department of School Administration.*

5. F. I. Cooper: Report of the committee of standardization of schoolhouse planning and construction, p. 341-45. 6. E. Shorrock: Some unsolved problems in school administration, p. 350-63. 7. C. G. Pearse: A principle in school administration, p. 354-57. 8. Mrs. O. S. Barnum: Administration "safe for democracy," p. 357-60. 9. W. C. Bruce: Some essentials in the planning of school buildings for community use, p. 361-64. 10. J. J. Donovan: The relations between boards of education, their superintendents, and the architects, p. 364-68. 11. S. A. Challman: The necessity of the adaptation of the building to the school organization, p. 368-70. 12. W. B. Ittner: Standardization of school buildings, p. 370-74. 13. W. T. Foster: Conservation of national ideals in war time, p. 375-76.

*Department of Normal Schools.*

14. How far should the principle of standardization be followed by normal schools? [by] C. G. Pearse, p. 378-79; [by] J. G. Crabbe, p. 379-82. 15. H. H. Seerley: The normal school and the demands of industrial education, p. 383-85. 16. F. E. Barr: The practical arts, p. 386-89. 17. Mrs. M. G. Barnum: The normal schools and the demand for education in the household arts, p. 389-93. 18. A. H. Sproul: The commercial arts, p. 393-95. 19. C. C. McCracken: A systematic plan for the after-training of normal-school graduates, p. 396-402. 20. Charles McKenny: Growth in service, p. 402-8.

215. **Oregon state teachers' association.** Proceedings of the meeting held at Portland, December 28-29, 1917. Oregon teachers monthly, 22: 313-434, February 1918.

Contains: 1. C. W. Boetticher: Report of committee on retardation, p. 335-39. 2. F. J. Toomey: Report of committee on thrift, p. 340-47. 3. Mrs. M. L. Falkerson: Report of committee on standardization of rural schools, p. 348-57. 4. R. W. Kirk: Report of committee on social service, p. 357-60. 5. F. M. Leavitt: Getting the city boy on the farm in summer as a war measure, p. 363-65. 6. F. M. Leavitt: Vocational guidance, p. 365-68. 7. W. T. Foster: Reeducation of wounded men, p. 371-72. 8. A. N. French: A study of the social sciences in the secondary schools of Oregon, p. 384-86. 9. Mrs. C. H. Castner: Thrift, p. 406-9. 10. L. L. Summers: The manual training schools cooperating with the national government, p. 411-13. 11. O. C. Brown: What the county superintendent may do to assist in food production and conservation, p. 415-18.

216. **Pan American scientific congress.** 2d, Washington, D. C., 1915-1916. Proceedings . . . Section IV, part 1-2, Education. Washington, Government printing office, 1917. 2v. diags. 8°.

217. **Southwest Missouri teachers' association.** Proceedings and addresses of the meeting held at Springfield, October 25-28, 1917. Bulletin Missouri state teachers' association, 3: 1-23, July 1917. (Miss Romaine Roach, secretary, Springfield, Mo.)

Contains: 1. C. A. McMurry: A course of study built up out of large topics, p. 4-5. 2. M. A. O'Rear: The reorganization of secondary education, p. 9-15. 3. W. E. Smith: How to make the parent-teachers' association of most value to the school system, p. 15-18. 4. E. E. Dodd: Personal expression. A new subject for the course of study, p. 18-21.

218. **Virginia educational conference, Roanoke, Va.** Proceedings of superintendents' association, November 1917. Bristol, Tenn., King printing co., 1918. 68 p. 8°. (F. B. Fitzpatrick, secretary-treasurer, Bristol, Va.)

Contains: 1. R. C. Stearnes: The Smith-Hughes bill, p. 28-33. 2. Mrs. B. B. Munford: The coordinate college and state school funds, p. 33-36. 3. F. B. Fitzpatrick: Standards in school financing, p. 36-41. 4. H. E. Bennett: The standards of our small high schools, p. 48-53. 5. J. C. Metcalf: A new-old emphasis in education, p. 54-62. 6. J. P. McConnell: Vocational guidance, p. 62-68.

219. **Washington educational association.** Addresses and proceedings of the thirty-first annual session . . . Tacoma, Wash., October 24-27, 1917. 200 p. 8°. (O. C. Whitney, secretary, Tacoma, Wash.)

Contains: 1. E. L. Cave: Our responsibilities to the children of the state, p. 16-26. 2. L. H. Gulick: The nature and meaning of school spirit, p. 42-45. 3. R. B. von Kleinschmid: An address [Pedagogy not found in books] p. 46-52. 4. G. H. Bohanan: The business management of schools, p. 56-58. 5. Clifford Woody: Educational measurements in the state of Washington, p. 59-62. 6. James Bever: The field of the normal school in extension work, p. 64-69. 7. R. P. Kelly: Physical training as against military training in our high schools, p. 103-10. 8. E. H. Hoyt: How can our schools maintain their efficiency during war times? p. 111-12. 9. Marie Weeks: The effect of supervised study upon the teaching of mathematics, p. 114-19. 10. Myrtle Sholty: The three R's in a socialized school, p. 135-39. 11. M. S. Lewis: Assembling upper grade and high-school pupils, means and ends, p. 147-52. 12. O. C. Goss: Industrial and vocational training, p. 153-56. 13. Almira George: Physical training for girls, p. 176-83.

#### EDUCATIONAL HISTORY AND BIOGRAPHY.

220. A memorial, Ben Blewett, 1856-1917. Saint Louis, Mo., 1917. 62 p. front. (port.) 12°.
221. **Swift, Fletcher H.** Hebrew education in the family after the exile. Open court, 32: 9-29, January 1918.
222. **Webb, William A.** Milton's views on education. Educational review, 55: 137-48, February 1918.

#### CURRENT EDUCATIONAL CONDITIONS.

##### *United States.*

223. **Dean, Arthur D.** Our schools in war time—and after. Boston, New York [etc.] Ginn and company [1918] 335 p. illus. 12°.

CONTENTS.—I. Bringing the war into the schools.—II. War and community uses of our schools.—III. The field for industrial and trade schools.—IV. Our colleges and technical institutes.—V. The opportunity for manual and household arts.—VI. The work impulses of youth.—VII. Organized boy power vs. military drill.—VIII. Red cross and other community work.—IX. Reeducation of the disabled.—X. Farm cadets.—XI. The organization of a cadet camp.—XII. A summarized program of action.

Discusses the relation of the schools to various community problems of war time. The author tells concretely what the schools of the various warring countries are contributing to war service, and suggests what the schools of America may do, not only in war time but in time of peace as well, to assume their share of civic responsibilities.

224. ———. Our schools in war time—and after. Teachers college record, 19: 1-14, January 1918.

Ways in which the teachers and the pupils can meet the demands of the present.

225. **Ettinger, William L.** The effect of the war on our elementary schools. Educational foundations, 29: 267-70, January 1918.

Discusses the ways in which our daily school work reflects the changed conditions due to the war.

226. **Lamkin, Uel W.** The test of tomorrow for Missouri schools. Rural school messenger, 7: 108-22, January 1918.

The task of the school of to-morrow in fitting the child for work in a larger world.

227. **Levine, Albert J.** The three R's of education and their complement, the three P's. Educational foundations, 29: 280-85, January 1918.

Says the schools must turn out men and women proficient not only in the three R's but also in the three P's of education—Preparedness, Patriotism, and Pan-Democratism.

228. **The national crisis demands a new kind of public school teaching.** American city, 18: 136-38, February 1918.  
Discusses the lessons on "Community and national life" published by the U. S. Bureau of education, and edited by Dr. C. H. Judd, of the University of Chicago.
229. **O'Donnell, William Charles.** The Gary system in the crucible of a political campaign. Educational foundations, 29: 270-75, January 1918.  
The political campaign in New York and the campaign literature on the Gary system prepared and distributed by both parties.
230. **Phillips, Charles.** The war and the schools. America, 18: 455, 479-80, February 9, 16, 1918.  
The effect of the war on school enrollment and its effect along the lines of character-construction
231. **Swindler, R. Earl.** Our schools and a new patriotism. Teacher's journal 17: 307-10, February 1918.
- Foreign Countries.*
232. **Brereton, Cloudealey.** The French child at home and at school. Contemporary review, 113: 56-62, January 1918.  
Says that the French child is "a most striking proof that social environment is a far more important factor in education than school."
233. **Clarke, Mary G.** The extension of the school age. Educational news (Edinburgh) 43: 44-45, January 18, 1918.  
Discusses the clause in the new Scottish education bill of 1917, which raises the school age from 14 to 15, etc.
234. **The Education bill.** Text of the bill "to make further provision with respect to education in England and Wales and for purposes connected therewith," introduced in Parliament by Mr. Fisher January 14, 1918. Times educational supplement (London) 8: 27-29, January 17, 1918.
235. **Education bill, Scotland.** Educational news (Edinburgh) 42: 685-92, 693-96, December 21, 1917.  
Full text of the bill, with comments.
236. **Forsant, Octave.** Keeping school under fire. Atlantic monthly, 121: 247-55, February 1918.  
The story by an inspector of schools, of school-keeping in Rhelms under bombardment by the Germans. To be followed in a second paper by narratives written by the pupils themselves of their experiences.
237. **Marshall, Edward.** Higher education in England. Pittsburgh school bulletin, 11: 165-72, February 1918.  
An interview with Hon. H. A. L. Fisher, giving his plan of education for England, a plan devised for making Britain a happier, healthier, and more efficient nation than any other in the world.
238. **[Munro, Robert.]** The education bill. Educational news, 43: 46-49, January 18, 1918.  
Reply of the secretary of Scotland to critics of the new educational bill of 1917.
239. **Rogers, Roswell W.** The secondary schools of Germany. Mississippi educational advance, 7: 14-19, February 1918.
240. **Singh, Saint Nihal.** Recent educational progress in India. Contemporary review, 113: 63-69, January 1918.  
Describes the educational activities of the University of Mysore, India, which commenced work on July 1, 1916.
241. **Soo-Hoo, Nettie.** The value of education in the advancement of China. Chinese students' monthly, 13: 201-7, February 1918.
242. **Young, James.** Administrative areas. Educational news (Edinburgh) 43: 24-28, January 11, 1918.  
Discusses the provisions of the new Scottish education bill of 1917.

## EDUCATIONAL THEORY AND PRACTICE.

243. **Bailey, L. H.** The science element in education. School science and mathematics, 18: 99-103, February 1918.  
Abstract of an address before the Central association of science and mathematics teachers, at Columbus, Ohio, November 30, 1917.  
The address was divided into two parts: First, an expression of opinion on the traditional division of educational topics into the arts and sciences; second, the contribution of science teaching to the development of civic ideas, particularly to the achievement of democracy.
244. **Benson, Arthur Christopher, ed.** Cambridge essays on education. Cambridge, University press, 1917. xix, 232 p. 8°.  
CONTENTS.—Introduction, by Viscount Bryce.—1. The aim of educational reform, by J. L. Paton.—2. The training of the reason, by W. R. Inge.—3. The training of the imagination, by A. C. Benson.—4. Religion at school, by W. W. Vaughn.—5. Citizenship, by Albert Mansbridge.—6. The place of literature in education, by Nowell Smith.—7. The place of science in education, by William Bateson.—8. Athletics, by F. B. Mallin.—9. The use of leisure, by J. H. Badley.—10. Preparation for practical life, by J. D. McClure.—11. Teaching as a profession, by Frank Roscoe.  
A volume of essays dealing with underlying aims and principles of education.
245. **Moore, Ernest C.** Formal discipline and the teaching of literature. School and society, 7: 181-87, February 16, 1918.  
An address before the New England association of teachers of English, Boston, March 17, 1917.
246. Suggestions of modern science concerning education, by Herbert S. Jennings, John B. Watson, Adolf Meyer, William I. Thomas. New York, The Macmillan company, 1917. 211 p. pl., fold. tab., diagr. 12°.

## EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

247. **Burnham, William H.** Mental health for normal children. Mental hygiene, 2: 19-22, January 1918.
248. **Hilderbrant, Edith L.** The balance between the mental and the physical. Mind and body, 24: 437-44, February 1918.  
Results of investigations showing that bodily training is highly essential to the highest intellectual development.
249. **Young, J. W. A.** Remarks on psychological investigations bearing on the disciplinary value of studies. School science and mathematics, 18: 130-38, February 1918.  
The disciplinary value of mathematics.

## EDUCATIONAL TESTS AND MEASUREMENTS.

250. **Averill, Lawrence Augustus.** A plea for the educational survey. School and society, 7: 187-91, February 16, 1918.  
Summarizes the values of the educational survey.
251. **Bobbitt, Franklin.** The plan of measuring educational efficiency in Bay City. Elementary school journal, 18: 343-56, January 1918.  
Study based on conditions observed in the schools of Bay City, Mich., devised by Supt. F. A. Gause and introduced in the fall of 1915. The test is a modified examination test, and has proven satisfactory. Illustrated with graphic charts, etc.
252. **Cleveland.** Board of education. Division of reference and research. The arithmetical abilities of school children as shown by Courtis tests. [Cleveland, 1917.] 15 p. tables, diagrs. 8°. (Bulletin No. 1, November 9, 1917.)  
C. W. Sutton, director.
253. **Furst, Clyde.** Educational surveys. Columbia university quarterly, 20: 81-90, January 1918.  
In conclusion the writer says that "In clearing away obstructions and opening the way for good teaching few implements have proved themselves more useful than the educational survey."

254. **Kephart, Adam Perry.** Clinical studies of failures with the Witmer form-board. *Psychological clinic*, 11: 229-53, January 15, 1918.
255. **Monroe, Walter S.** A report on the use of the Kansas silent reading tests with over one hundred thousand children. *Journal of educational psychology*, 9: 600-608, December 1917.  
 "These results are drawn from a large number of States, and are arranged according to the localities from which they come. Criticisms of the tests are discussed, and a comparison is made with the Gray silent reading tests. The author believes that the Kansas tests place more emphasis upon comprehension than upon rate of reading."
256. **Nutting, H. C.** Experimental test of educational values. *Education*, 38: 460-66, February 1918.  
 Criticises some of the so-called scientific tests, especially a recent one which attempts to determine whether Latin "functions or not."
257. **Yocum, A. Duncan.** The most immediate concern of educational research during the struggle for democracy. *School and society*, 7: 151-56, February 9, 1918.  
 A paper presented before Section L of the American association for the advancement of science, Pittsburgh, December 29, 1917.
258. **Zerbe, J. L.** Distribution of grades. *Journal of educational psychology*, 8: 575-88, December 1917.  
 "The author has made a detailed study of 28,357 grades given at the Carnegie institute of technology. On the basis of this material he discusses the subject of attitudes in grading, and demonstrates the advisability of grading according to a normal distribution curve, which expresses the correlation of mental tests with the grades assigned by instructors for a series of years."

#### SPECIAL METHODS OF INSTRUCTION.

259. **Esenwein, Joseph Berg and Stockard, Marietta.** Children's stories and how to tell them. Springfield, Mass., The Home correspondence school [1917]. 253 p. 12°. (The writer's library, ed. by J. B. Esenwein.)
260. **Whitacre, H. J.** Motion pictures; their effect on school children and their value as a means of instruction. *Midland schools*, 32: 171-76, February 1918.  
 Results of a study made in the schools of Waterloo, Des Moines, and Sutherland, Iowa.

#### SPECIAL SUBJECTS OF CURRICULUM.

261. **National council of teachers of English.** Proceedings of the seventh annual meeting, Chicago, November 29-30 and December 1, 1917. *English journal*, 7: 39-75, January 1918.
262. ———. **Committee on English in the normal school.** Final report. In *English journal*, 7: 29-38, January 1918.  
 Walter Barnes, chairman.  
 Part 1, History. Part 2, Final tabulation of the data contained in the questionnaires and a few interpretations of the data. Part 3, Principles upon which the English work in a two-year normal course should be based.
263. **Allen, Carrie B.** Some suggestions for the teaching of ancient history in secondary schools. *Education*, 38: 454-59, February 1918.  
 "The great aim of ancient history teaching," says the writer, "should be the inspiring of vivid mental conceptions of the ancient peoples and life."
264. **Andress, James Mace.** The teaching of hygiene in the grades. Boston, New York [etc.] Houghton Mifflin company [1918]. 177 p. 12°. (Riverside educational monographs, ed. by Henry Suzzallo).
265. **Atkinson, J. H.** Technical English. *Engineering education*, 8: 199-212, January 1918.
266. **Ballard, P. B.** How to write with the left hand. *School world (London)* 20: 16-19, 43-46, January, February 1918.  
 Final papers of series.

267. **Bernard, Luther L.** The teaching of sociology in Southern colleges and universities. *American journal of sociology*, 23: 491-515, January 1918.  
A study based on replies to a questionnaire sent out March 1, 1917, to the 139 educational institutions listed in the *World almanac* as being located within the 14 States called southern. Gives extensive tabulated data.
268. **Blount, Alma.** Of teaching literature. *American schoolmaster*, 11: 49-66, February 15, 1918.  
Comments on some of the aspects of literature that may be used in classes to stimulate students mentally and to give body and firmness to discussion.
269. **Dann, Hollis.** Music in the public schools—what constitutes success. *School music*, 19: 7-17, January-February 1918.  
Discussion before the music section of the Indiana state teachers' association, Indianapolis, November 1, 1917.
270. **Davis, Alfred.** Valid aims and purposes for the study of mathematics in secondary schools. *School science and mathematics*, 18: 112-23, 208-20, February, March, 1918.  
To be continued.
271. **Davison, Walter B.** The history teacher's patriotic opportunity. *Educational review*, 55: 111-16, February 1918.  
Says that history, like geography and civics, has been over-formalized, and slow to respond to modern demands. Cites reasons.
272. **Dolch, Edward W., jr.** Selling English. *Education*, 38: 447-49, February 1918.
273. **Driggs, Howard B.** Seeing classics as wholes. *English journal*, 7: 7-14, January 1918.  
Urges the necessity of teaching literature from the inspirational viewpoint. Says that the super-scientific attitude in studying English literature is largely responsible for the failure to lead students to appreciate and enjoy the classics.
274. **Education, scientific & humane; a report of the Proceedings of the Council for humanistic studies**, edited by Frederic G. Kenyon. London, J. Murray, 1917. 32 p. 8°.
275. **Flint, Leon Nelson.** Newspaper writing in high schools, containing an outline for the use of teachers. [Lawrence, Kan., 1917] 42 p. illus. 4°.
276. **Gager, C. Stuart.** The near future of botany in America. *Science*, n. s. 47: 101-15, February 1, 1918.  
Shows the importance of botany in the curriculum of the colleges and high schools. Discusses the aims and content of advanced botanical education for those intending to enter botany as a profession.  
Address delivered before the American association for the advancement of science, Section G, December 23, 1917.
277. **Gould, Frederick J.** History the supreme subject in the instruction of the young. London, Watts, 1918. 15 p. 12°.  
"In this pamphlet the main proposition to be argued and illustrated is as follows: That history, understood in a broad, liberal and modern sense, can be, and should be, treated as the supreme subject in the instruction of the young, and that the studies, exercises, and activities which have figured as 'subjects' in the time-tables of the past can be grouped around, and connected with, this supreme subject." p. 3.
278. **Greenlaw, Edwin.** Relating the English to the world crisis. II. The school and the spirit of democracy. *High school journal*, 1: 1-5, February 1918.  
Advocates the suspension of the fixed course of study and shows the infinite possibilities of the schools in the present crisis in studying the President's messages, the lessons on community and national life, etc.

279. **Hack, B. K.** The case for humility. *Atlantic monthly*, 121: 222-31, February 1918.

Says that the humanist must learn to practice humility, to abandon his faith in the mechanical and quantitative methods which belong to science, and to set about the task of reinstating the past in the present. He should fight for a positive end, the primacy of the human spirit.

280. **Hadzits, George Depue.** The value of the classics in modern education. *Alumni register (University of Pennsylvania)* 20: 367-78, February 1918.

An address delivered before the Bucks county teachers' association, at Doylestown, Pa., December 4, 1915. Revised.

281. **Howe, George.** The teaching of Latin in the high school. II. Planning the course. *High school journal*, 1: 5-8, February 1918.

282. **Indiana state council of defense.** Indiana war service text-book for Indiana high schools. Planned by the State council of defense, authorized by the governor, edited and published by the State board of education. [1918] 151 p. illus. 12°.

283. **Lyman, R. L.** Fluency, accuracy, and general excellence in English composition. *School review*, 26: 85-100, February 1918.

A study based on an examination of the themes of 322 freshmen in four high schools, Bloomington, Winnetka, and the University high, Illinois; and Vinton, Iowa. The study includes 59,516 words. The following conclusions were reached: "(1) There appears to be a positive correlation between fluency and accuracy. (2) Approximate excellence in substance and composition seems to be attained most readily by those pupils who write with a reasonable, but not excessive, fluency. (3) General excellence in substance and rhetorical form apparently is accompanied by a reasonable command of the mechanics of writing."

284. **Miles, Dudley.** How can we co-operate in teaching English? *High school quarterly*, 6: 81-87, January 1918.

285. **Mille, A. B. de.** War-books in the schools. *English leaflet*, 19: 1-9, February, 1918.

The problem of adapting war literature to school use. An experiment with a class of average boys.

286. **Morgan, J. C.** The transition period of Athenian education and modern education. *Classical journal*, 13: 272-76, January 1918.

A plea for the classics.

287. **Osgood, Charles G.** The artistic teaching of English. *English journal*, 7: 15-23, January 1918.

Says that the teacher should humanize the subject, to render it the medium for revealing essential facts and values of human life.

288. **Pharr, Clyde.** A year—or more—of Greek. *Classical journal*, 13: 364-71, February 1918.

Advocates, for the first year, the use of a book which will introduce the student at the earliest practicable moment to continuous reading of a Greek author who is intrinsically interesting and worth while.

289. **Sachs, Julius.** Desirability of a syllabus of French and German texts. *Modern language journal*, 2: 139-49, January 1918.

Address before the Association of modern language teachers at convention of Association of colleges and preparatory schools of the middle states and Maryland, Poughkeepsie, N. Y., December 1, 1917.

290. The school course in history: some precedents and a possible next step. *History teacher's magazine*, 9: 74-83, February 1918.

Report of a joint committee of the Association of history teachers of the middle states and Maryland and the American historical association.



291. **Scott, Frank W.** What our students say about us. Illinois association of teachers of English bulletin, 10: 1-9, February 1, 1918.  
Read at the meeting of the National council of teachers of English, Chicago, November 30, 1917. Students' ideas as to what shortcomings in their preparation may be attributed the failure of graduates from any given high school to pass any given college freshman course in composition.
292. **Seashore, Carl E. and Mount, George H.** Correlation of factors in musical talent and training. In University of Iowa studies in psychology, no. 7. Princeton, N. J., Psychological review company, 1918. p. 47-92. (Psychological monographs, vol. xxv, no. 2, whole no. 108, 1918)
293. **Small, Jennie A.** The beginning of formal number work. Elementary school journal, 18: 357-68, January 1918.  
Says that "strong visualization of symbols and of space relationships of numbers assists in the process of abstraction." The work at first should be concrete. Formal work in number usually begins in the second year.
294. **Spink, Josette Eugénie.** French in the pre-high school period. Modern language journal, 2: 157-69, January 1918.  
Paper before the 29th Educational conference of the academies and high schools with the University of Chicago, April 13, 1917.  
Contains a diagram of pre-high school course.
295. Two reports on the teaching of French. School world (London) 20: 9-12, 46-49, January, February 1918.  
A review of two reports on the teaching of French in London secondary schools. The reports were made by six inspectors of the Board of education and by Mr. Cloudeley Brereton, inspector in modern languages to the London county council.
296. **Valentine, C. W.** An inquiry into the value of the study of Latin and Greek. School world (London) 20: 1-6, 39-43, January; February 1918.  
To be concluded.
297. **Vinal, William Gould.** Some mechanical aids in nature-study. Nature-study review, 14: 60-73, February 1918.
298. **Waterhouse, E. H.** General science in Amherst junior high school. General science quarterly, 2: 318-36, January 1918.  
Presents curriculum of a two-year course in science.
299. **Wiley, Roy A.** Educational ideas and the eight-hour day. New Mexico journal of education, 14: 5-7, February 1918.  
From American education, September 1917.  
A plea that we educate children not only for their vocations but also for their avocations.
300. **Winbolt, S. E.** The reform of classical education. Athenaeum, no. 4625: 25-27, January 1918.

#### KINDERGARTEN AND PRIMARY SCHOOL.

301. **Fulmer, Grace.** The use of the kindergarten gifts. Boston, New York [etc.] Houghton Mifflin company [1918] 232 p. front, diags., 12°.
302. **Taylor, Randall L., Jr.** Does kindergarten training promote rapid progress through the grades? Kindergarten and first grade, 3: 51-56, February 1918.  
Pages 51 to 56 contain notes on Mr. Taylor's study by Professor Henry W. Holmes.  
Says that the kindergarten does not seem to serve as a promoter of much greater speed through the grades. Its chief service is to be found in giving the child more wholesome instruction among more wholesome surroundings during the early years of his life.

#### RURAL EDUCATION.

303. **Bricker, Garland A.** Education in the rural home. American education, 21: 311-12, February 1918.  
Parental association, education in obedience, moral education, physical education, industrial education, and intellectual education, as found in the country home.

304. **Mardis, S. K.** Why rural school teachers should have rural professional training instead of city training. Ohio teacher, 38: 248-50, January 1918.  
Says city-trained teachers can not have spiritual touch with the rural children because city training gives city ideals, city standards, and city-mindedness.
305. **Meade, A. E.** Improvement of the teaching staff of rural schools. Ohio teacher, 38: 251-53, January 1918.  
What may be done to improve the rural teaching staff under normal conditions of social life and what may be done during time of war.
306. **Phillips, D. E.** Rural education and consolidation. School and society, 7: 191-94, February 16, 1918.  
Advocates federal aid for the rural schools. Says that "Local taxation must be destroyed through conditional national appropriation."
307. Report of a Conference on rural education held at "Simonstone," Hawes, Wensleydale, September 29 and 30, 1917. Athenaeum, no. 4625: 53-60, supplement, January 1918.
308. **Shriber, J. H.** The fundamental points of attack in a successful solution of the problems of rural education and country life in sparsely settled states. Colorado school journal, 33: 18-21, January 1918.  
Address at the National conference of rural education, Denver, November, 1917.

### SECONDARY EDUCATION.

309. **Allison, E. H.** The junior high. Ohio educational monthly, 67: 54-56, February 1918.  
The reorganization of the public schools and the advantages of the junior high school plan.
310. **Bowers, Ross E.** How should the high school prepare for college. Journal of education, 87: 117-18, January 31, 1918.  
Believes that the colleges should lower the entrance barriers, extend the number of entrance subjects, and exhibit more common sense in general in regard to the matter than they do now.
311. **Inglis, Alexander.** Principles of secondary education. Boston, New York [etc.] Houghton Mifflin company [1918] 741 p. 12°.
312. **Jones, Arthur J.** The junior high school—its place in the reorganization of education. School review, 26: 110-23, February 1918.  
A critical review of the subject in all its phases. As regards the status of the junior high school now in operation, the writer says that the investigator is handicapped at the beginning by lack of adequate data.
313. **Roberts, Alexander C.** Modernizing the high school. Northwest journal of education, 29: 9-13, January 1918.  
The place of the high school in the scheme of public education to-day, its development through modernizing the curriculum, etc.
314. **White, E. J.** Cost of high school instruction in Washington. Northwest journal of education, 29: 6-12, February 1918.

### TEACHERS: TRAINING AND PROFESSIONAL STATUS.

315. **Abbott, Allan.** The English teacher and the world war. English journal, 7: 1-6, January 1918.  
President's address at the seventh annual meeting of the National council of teachers of English, November 30, 1917.
316. **Bolton, Frederick E.** How to secure real promotion. Northwest journal of education, 29: 16-18, February 1918.  
Thinks that advanced scholarship is the best means of opening the doors of promotion and recommends to the teachers of Washington the attendance upon a summer session in some institution of learning.

317. **Brown, Carroll T.** Teacher vs. system. *Westonian* (Westtown, Pa.), 24: 11-21, January 1918.  
Part of an address given before the Educational association at Barnesville, Ohio, December, 1917. Points out the great need of mature cultivated men and women as teachers even for the very young children.
318. **Buncher, W. C.** The general training of the teacher. *Journal of education* (London) 50: 18, 20, January 1918.
319. **Clarke, William F.** Teacher-qualifications sought by superintendents. *American school board journal*, 56: 28-29, 86-87, February 1918.  
The superintendent's idea of what constitutes the make-up of a satisfactory teacher, as gleaned from a study of the different schedules used in checking up qualifications and characteristics.
320. **Cornman, Oliver P.** Retirement system for the public schools of Pennsylvania. *Pittsburgh school bulletin*, 11: 137-44, January 1918.  
A brief review of the recently enacted measure, giving the provisions of the law and showing the soundness and wisdom of the legislation.
321. **Gage, Harry Morehouse.** A message to the teachers of South Dakota. *South Dakota educator*, 31: 25-26, 35, February 1918.  
The teacher's duty in war time.
322. **Gay, Robert M.** Why teach? *Atlantic monthly*, 121: 218-22, February 1918.  
Discusses the profession of the teacher.
323. **Purcell, Helen E.** Poor salaries for teachers as they affect the child. *American school board journal*, 56: 23, 83, February 1918.
324. **Ruediger, W. C.** The spirit of the teaching corps. *School and society*, 7: 91-97, January 27, 1918.  
Address before the Maryland state teachers' association, November 27, 1917. Divides the factors upon which the spirit of the teaching corps depends into two groups: (1) those pertaining to personality and (2) those pertaining to administrative policies.
325. **Ruetenik, G. A.** Are the teachers' pension funds in Ohio solvent? *Ohio teacher*, 38: 262-65, January 1918.  
Gives some figures and facts concerning teachers' pension funds in general, giving particular attention to the financial condition of the Cleveland, Ohio, pension fund.
326. **South Carolina state teachers' association.** The status of the teaching profession. Report of the Committee of the State teachers' association of South Carolina, 1917; Reprinted by permission from the Proceedings. Columbia, S. C., The University, 1917. 12 p. 12°. (Bulletin of the University of South Carolina, no. 61, October 1917)

## HIGHER EDUCATION.

327. **Adams, John.** The student's guide. London, The University of London press, 1917. 296 p. 12°. Presents the following topics: Taking oneself in hand, Plan of campaign, Manipulation of the memory, Nature of study and thinking, Mode of study, Reading, Textbooks and books of reference, Listening and note-making, Translation and essay-writing, Examinations.
328. **Beeley, Thomas Quinn.** The war, the colleges and the universities. *Catholic educational review*, 15: 140-46, February 1918.  
Gives statistics showing the enrollment of freshmen in colleges and universities in October, 1916, and October, 1917.
329. **Chamber of commerce of the United States of America. Committee of statistics and standards.** The economic significance of the state university. Washington, D. C., 1917. 11 p. illus. 4°. (Special bulletin, July 30, 1917)  
History, revenues, achievements, etc., of state universities.

330. Church, C. C. The place of the small country college. *American schoolmaster*, 11: 1-9, January 15, 1918.  
The policies and methods of the country college.
331. [Harvard university] The teaching of economics in Harvard university, a report presented by the Division of education at the request of the Department of economics. Cambridge, Harvard university press; London, H. Milford, 1917. 248 p. plates, diags. 12°.
332. Keller, A. G. The B. A. degree in America. *Scientific monthly*, 6: 142-56, February 1918.  
Says that the degree has been too lavishly conferred; it has been cheapened "to the verge of meaninglessness." Advocates a required course of study.
333. Lincoln, Edmond E. The tutorial system in the division of history, government, and economics of Harvard university. *American Oxonian*, 5: 14-19, January 1918.  
This is the seventh article in a general survey of the various adaptations of English methods to American universities.
334. MacCracken, John Henry. Pooling of college interests as a war measure. *History teacher's magazine*, 9: 70-73, February 1918.  
An address delivered before the Association of American colleges, January 12, 1918.  
Says that the necessities of war require not only some kind of pooling of educational interests, but also some kind of an administrator of education at Washington to whom the various governmental departments can present their educational needs. Proposes an administrator of education to rank with the food administrator and the fuel administrator and to occupy a seat in the War Council.
335. Mexico. Boletín de la Universidad. Órgano del Departamento universitario y de bellas artes. Tomo I, num. 1, December 1917. 339 p., 8 plates. illus., plates. 8°. Office: Lic. Verdad 2. Mexico D. F.
336. Nutting, H. C. Latin and the A. B. degree. *School and society*, 7: 121-26 February 2, 1918.  
A discussion of the article by Dr. Elliot making a plea for the abolition of the Latin requirement for the A. B. degree.
337. O'Shea, M. V. College fraternities. *Mother's magazine*, 13: 124-25, February 1918.  
The evils and the value of college fraternities.
338. ——— Types of war service. *Wisconsin journal of education*, 50: 1-8, January 1918.  
Some new types of service performed by the University of Wisconsin in serving the nation in war time.
339. Robertson, David Allan. The quarter-centennial celebration of the University of Chicago, June 2 to 6, 1916. Chicago, Ill., The University of Chicago press [1918] 234 p. col. front., plates, ports, plans. 8°.
340. Sachs, Julius. Junior colleges in California. *Educational review*, 55: 117-25, February 1918.
341. Smith, Kirby F. The degree of master of arts at Johns Hopkins university. *Educational review*, 55: 126-32, February 1918.  
Says that the master's degree is distinctly a graduate degree, therefore, the candidate for it should have gained the baccalaureate degree from a college in good standing. Two years of study are required for this degree at the Johns Hopkins university.
342. Thwing, Charles F. An intellectual equivalent of "student activities." *North American review*, 207: 239-43, February 1918.  
Relating studies to problems of real life, for example, making pure mathematics into applied mathematics, etc.

## SCIENTIFIC RESEARCH.

343. **Thatcher, B. W.** The relation of the state university to research work in war times. *Scientific monthly*, 6: 124-27, February 1918.

Says that the State universities are the agencies to which the Government has the right to look for research assistance in winning the war. A plea for more efficiency in laboratory and shop.

## SCHOOL ADMINISTRATION.

344. **Alexander, Carter.** Translating school statistics for the public. *Teachers college record*, 19: 34-42, January 1918.
345. **Clarke, Earle.** The growth of cities and their indebtedness for schools. *Elementary school journal*, 18: 377-81, January 1918.
346. **Hargitt, Charles W.** Vital statistics and the schools. *School and society*, 7: 126-30, February 2, 1918.

Gives a summarized outline of a proposed plan of vital statistics as related to education.

347. **Julian, Brother.** The making of reports and their value. *Catholic educational review*, 15: 131-39, February 1918.

Thinks that reports are of little value to parents and of less value to teachers.

348. **Martin, A. S.** Waste in supervision. An analysis of school supervision. *American school board journal*, 56: 32-33, February 1918.

349. **Talbert, Wilford E.** Are we spending too much money on our schools? *California taxpayers' journal*, 2: 13-16, January 1918.

Efficient school purchasing.

## SCHOOL MANAGEMENT.

350. **Laird, S. B.** School discipline. *American schoolmaster*, 11: 17-23, 67-71, January 15, February 15, 1918.

351. **Ricciardi, Nicholas.** Departmental teaching in the grammar school. *Education*, 38: 450-53, February 1918.

Says that the departmental school, under proper supervision is making the average pupil more efficient socially.

352. **Robinson, W. T.** Marking systems. *High school quarterly*, 6: 106-11, January 1918.

353. **Stitt, Edward W.** Suggestions to young teachers. *McEvoy magazine*, 10: 333-39, February 1918.

Helpful suggestions for the young teacher in class management, etc.

354. **Winalow, Ada.** Dormitory discipline. *High school quarterly*, 6: 112-16, January 1918.

## SCHOOL ARCHITECTURE.

355. **Brinckloe, William Draper.** Planning the schoolhouse in war time. *American school board journal*, 56: 27-28, February 1918. illus.

The 3-room school.

## SCHOOL HYGIENE AND SANITATION.

356. **Baker, S. Josephine.** Classroom ventilation and respiratory diseases among school children. *American journal of public health*, 8: 19-26, January 1918.  
 Paper read before the Sociological section of the American public health association, October 20, 1917, Washington, D. C.  
 A study of 5,533 pupils in 76 classrooms in 12 schools operated under three different types of ventilation, conducted during a five-month period in the late fall, winter, and early spring.
357. **Conboy, Fred J.** Rural dental inspection. *School (Toronto, Canada)* 6: 397-400, February 1918.  
 Dwells on the urgent necessity of dental inspection of rural school pupils.
358. **Kerr, James.** Standards of height for school children. *School hygiene (London)* 8: 101-15, December 1917.  
 Conditions in London described. Results of measurements, stature and intelligence, rhythm in growth, and determination of standard values set forth. References: p. 115.
359. **Penn, Byron.** A schoolmaster's notes on growth of scholars. *School hygiene (London)* 8: 116-25, December 1917.  
 Gives statistical data. To be continued.
360. **Rice, Gordon W.** Medical inspection of public school children. *American school board journal*, 56: 25-26, February 1918.  
 Gives statistics of medical inspection for Pennsylvania and Washington.
361. **Rossman, John G.** A practical health survey. *Arkansas teacher*, 6: 3-6, January 1918.  
 Gives the results of a survey of the school children of Stuttgart, Ark., to ascertain the health conditions of pupils in the third, fourth, and sixth grades.
362. **Thompson, A. Hugh.** The importance of ophthalmic supervision in nursery schools. *Child (London)* 8: 178-80, January 1918.

## PHYSICAL TRAINING.

363. **Johnson, George Ellsworth.** Physical education from the recreative viewpoint. *Mind and body*, 24: 447-53, February 1918.  
 Read at the annual convention of the State teachers association of Pennsylvania, Harrisburg, Pa.
364. **Reilly, Frederick J.** A rational classification of boys and girls for athletic competition. *American physical education review*, 23: 13-24, January 1918.
365. **Sargent, Dudley A.** Civilization and athletic feats. *Journal of sociologic medicine*, 18: 402-7, December 1917.  
 Advocates the adoption of a universal system of all-round physical education in every school and college. Traces the history of athletics in Greece and Rome.  
 Paper read at the 42d annual meeting of the American academy of medicine, New York city, June 5, 1917.

## PLAY AND PLAYGROUNDS.

366. **Ross, Edward A.** Adult recreation as a social problem. *American journal of sociology*, 23: 516-28, January 1918.  
 Discusses the social value of public playgrounds, recreation fields, and community theatres.

## SOCIAL ASPECTS OF EDUCATION.

367. **Finney, Ross L.** Sociological principles fundamental to pedagogical method. *Educational review*, 55: 91-110, February 1918.  
 A criticism of Dewey's "Democracy and education," which, says the writer, "overemphasizes the deliberative, conscious aspects of individual and social life, and in as many ways slurs over the value of habit, drill and social compulsion."

368. **Metzendorf, A. E. and Campbell, Walter.** The neighborhood center movement. Playground, 11: 542-48, February 1918.  
Chapters from a forthcoming book.
369. **Rankin, Jeannette.** Schoolhouses as democracy center. Indiana instructor, 2: 24-25, February 1918.  
By a member of Congress from the state of Montana.
370. **Robbins, Charles L.** The school as a social institution; an introduction to the study of social education. Boston, New York [etc.] Allyn and Bacon [1918] xxv, 470 p. 12°.  
Presents a survey of the school designed to set forth in a brief yet moderately comprehensive manner the social significance of its educational work, its relation to other institutions and forces, its function as a determining and controlling force, its work as a protective agency, and its service as a community center.
371. **Wilson, H. B.** Socializing the school. Kansas teacher, 6: 10-12, February 1918.  
Abstract of an address before the city superintendents of Kansas at the Emporia state normal school.

## CHILD-WELFARE.

372. **Millard, Columbus Norman.** A parent's job. Boston, Chicago, The Pilgrim press [1917] 227 p. 12°.
373. **Newholme, Arthur.** The enemies of child life. Nineteenth century and after, 83: 76-98, January 1918.

## MORAL EDUCATION.

374. **Cates, E. E.** Moral education in the public school. Education, 38: 467-73, February 1918.  
Says that it is possible to teach morality without sectarianism; a fact which is demonstrated every day in the public schools.
5. **Folsom, Joseph K.** The social psychology of morality and its bearing on moral education. American journal of sociology, 23: 433-90, January 1918.  
In the teaching of morality less stress must be laid upon motives and virtues, and more stress upon facts and results. Discusses the subject under two heads: (1) The psychological origins of morality; (2) Sociological and educational bearings.  
An elaborate study of 58 pages.
376. **Willson, Wilhelmine Putnam.** The child that does not stumble. Boston, R. G. Badger; Toronto, The Copp Clark co., limited [1917] 151 p. 12°.

## RELIGIOUS EDUCATION.

377. **Finley, John H.** Week-day religious instruction. Religious education, 13: 5-8, February 1918.  
Also in Educational foundations, 20: 343-47, February 1918.  
An address by the Commissioner of education of New York at the meeting in Carnegie Hall, New York city, November 12, 1917.
378. **Galloway, Thomas Walton.** The use of motives in teaching morals and religion. Boston, Chicago, The Pilgrim press [1917] 187 p. 12°.
379. **Holtz, Adrian Augustus.** A study of the moral and religious elements in American secondary education up to 1800. Menasha, Wis., 1917. 86 p. 8°.  
Thesis (Ph.D.) University of Chicago, 1914.

## MANUAL AND VOCATIONAL TRAINING.

380. **Federal board for vocational education.** Bulletin, nos. 2-4. Washington, Government printing office, 1917-1918. 3 v. 8°.
- No. 2, Circular of information for use in training conscripted men for service as radio and buzzer operators in the United States Army, 14 p. No. 3, Emergency training in shipbuilding. Evening and part-time classes for shipyard workers, 71 p. No. 4, Mechanical and technical training for conscripted men (Air division, U. S. Signal corps), 47 p.
381. **Laselle, Mary A.** Causes of the success or the failure of first-year boys in a vocational school. *Elementary school journal*, 18: 369-76, January 1918.
- Investigation made in the Newton vocational school, Mass. Not an exhaustive survey. Facts secured during a series of individual interviews with "a large number of first-year boys, some of whom would be labeled 'successful,' while the others, if judged by ordinary standards, would be considered 'failures.'"
382. **Maple, E. O.** A program for vocational education for war service. *Teacher's journal*, 17: 310-14, February 1918.
- The vocational education program for Indiana.
383. **Snedden, David.** The practical arts in general education. *Teachers college record*, 19: 15-33, January 1918.
- "Contains a series of proposals for the reorganization of the theory of industrial, commercial, agricultural, and household arts with special reference to their employment as means of general education for pupils from twelve to sixteen years of age."
384. **Stilwell, Katherine M.** The course in printing in the university elementary and high schools, the University of Chicago. *Elementary school journal*, 18: 333-42, January 1918.
- Discusses value of printing as a practical school activity, also its humanistic tendencies. Gives outline of work, and equipment of school.
385. **Tubbs, Eston V.** The part-time plan in the Centralia (Ill.) township high school. *School review*, 26: 101-9, February 1918.
- Describes the cooperative plan between the Centralia township high school and the Illinois Central railroad company shops. In the operation of the plan two boys constitute a unit. While one boy is in school the other is working in the shops.
386. **U. S. Bureau of labor statistics.** Industrial experience of trade-school girls in Massachusetts. October 1917. Washington, Government printing office, 1917. 275 p. tables. 12°. (Bulletin, whole no. 215. Women in industry series, no. 10)
387. **Winters, T. Howard.** The school's duty to train workers. *Ohio educational monthly*, 67: 51-53, February 1918.
- Says we must seek out the needs of industry and industrial workers, co-operate with employers and labor organizations, use the practical operations in the plants for our laboratories and the trained men of the shops as our teachers.

## AGRICULTURAL EDUCATION.

388. **Jordan, Whitman H.** The future of agricultural education and research in the United States. *Science*, n. s. 47: 125-34, February 1918.
- Vice-presidential address before Section M of the American association for the advancement of science.
- Discusses the internal policy of the agricultural colleges and experiment stations. Criticizes centralization of authority and the budget system, which threaten "the efficiency of agricultural education and research."

## COMMERCIAL EDUCATION.

389. **Davis, Roy.** Business practice in elementary schools. Cambridge, Mass., Harvard university [1917] 31 p. 8°. (Harvard bulletins in education [no. VI, October 1917].)



390. **Lomax, Paul S.** Significant results of Missouri and New Mexico commercial education surveys. *School review*, 26: 73-84, February 1918.

The above-mentioned surveys were authorized by the commercial departments of the state teachers' associations. The Missouri survey was made in 1916; the New Mexico survey in 1917. They were undertaken to establish "a constructive and comprehensive program of state-wide standardization of commercial education." Sums up the results of the surveys.

391. **Swiggett, Glen Levin.** Training for business. *School and society*, 7: 97-104, January 26, 1918.

#### PROFESSIONAL EDUCATION.

392. **Arnold, Horace D.** Medical education, medical interns and the war. *Journal of the American medical association*, 70: 451-54, February 16, 1918.

393. **Clayton, S. Lillian and Jammé, Anna C.** How secondary school principals and teachers can help push national preparedness in nursing. *American journal of nursing*, 18: 391-98, February 1918.

394. **Poston, Adele S.** Teaching in a training school for nurses. *American journal of nursing*, 18: 382-87, February 1918.

Cites the history of nursing; methods of teaching in various schools; minimum requirements of class rooms, etc.

395. **Strong, Anne Harvey.** Some problems in the training of school nurses. *American education*, 21: 302-6, February 1918.

#### CIVIC EDUCATION.

396. **Dunn, Arthur W.** Training in the duties of citizenship. 24 p. 8°. (Massachusetts. Board of education. Bulletin, 1917, no. 8.)

397. **Phillips, James D.** Teaching patriotism. *Education*, 38: 443-46, February 1918.

Says that history is the "great storehouse of patriotism." Lessons should be drawn from the lives of great heroes and defenders of liberty and democracy.

398. **Talbot, Winthrop, comp.** Americanization. Principles of Americanism; essentials of Americanization; technic of race-assimilation; annotated bibliography. New York, The H. W. Wilson company, 1917. lii, 320 p. 12°. (The handbook series.)

#### REEDUCATION OF WAR INVALIDS.

399. **Hutt, Cecil William.** The future of the disabled soldier . . . London, Bale, sons & Danielson, ltd. [etc.] 1917. x, 199 p. plates. 12°.

400. **McMurtrie, Douglas C.** Re-educating German war cripples at Düsseldorf. *Boston medical and surgical journal*, 178: 182-87, February 7, 1918.

#### EDUCATION OF WOMEN.

401. **Weaver, W. D.** Types of schools for the higher education of women. [Charlottesville, Va.] 1918. 7 p. 8°.

402. **Weiss, Alma Joachimson.** The German women's struggle for higher education. *School and society*, 7: 161-65, February 9, 1918.

#### EDUCATION OF DEAF.

403. **Johnson, Richard O.** The deaf and psychic development. *Education*, 38: 425-42, 508-17, February, March 1918.

Sketches the history of the education of the deaf; mental capacity classified; methods of instruction, etc.

404. **Jones, John W.** One hundred years of history in the education of the deaf in America and its present status. *American annals of the deaf*, 63: 1-47, January 1918.

Early attempts to found schools for the deaf, changes in the teaching force, industrial and vocational training, school books, etc.

405. **Leonard, Eleanor C.** The fiftieth anniversary of the founding of the Clarke school, Northampton, Mass. *Volta review*, 20: 45-65, January 1918.

History of the Clark school for the deaf, founded in 1867. Fully illustrated with portraits of founder and teachers. For an account of an historical pageant presented on the occasion of the anniversary see pages 31-44.

406. **Morgenstern, Louise I.** The mental factor in lip-reading. *Volta review*, 20: 14-17, January 1918.

407. **Pintner, Rudolf.** Some conclusions from psychological tests of the deaf. *Volta review*, 20: 10-14, January 1918.

Among other conclusions the writer says that the Binet-Simon scale is impracticable as arriving at any adequate measure of the deaf child's general intelligence.

#### EXCEPTIONAL CHILDREN.

408. **Anderson, Meta L.** Education of defectives in the public schools. With an introd. by Henry H. Goddard. Yonkers-on-Hudson, N. Y., World book company, 1917. 104 p. diags. 12°. (School efficiency monographs)

409. **Clark, L. Pierce.** A consideration of conduct disorders in the feeble-minded. *Mental hygiene*, 2: 23-33, January 1918.

A study of high-grade feeble-minded children. Work in schools. Cites cases in the public schools of New York city.

410. **Glueck, Bernard.** A study of 608 admissions to Sing Sing prison. *Mental hygiene*, 2: 85-151, January 1918.

A report of the work of the psychiatric clinic at Sing Sing from the time of its establishment, August 1, 1916, to April 30, 1917. Many interesting cases cited with school records, etc.

411. **Swift, Walter Babcock.** Speech defects in school children, and how to treat them. Boston, New York [etc.] Houghton Mifflin company [1918] 129 p. 12°. (Riverside educational monographs, ed. by Henry Suzzallo)

412. **Teas, Elizabeth H.** A report of a survey of the children in the ungraded classes in the borough of the Bronx. *Ungraded*, 3: 75-82, January 1918.

#### EDUCATION EXTENSION.

413. **Dana, John Cotton.** Schools and museums. *Public libraries*, 23: 60-63, February 1918. illus.

414. **Winkler, Helen.** Laggards at night school. *Survey*, 39: 462-63, January 26, 1918.

Discusses the problems of un-Americanization and illiteracy among immigrants. Makes a plea for cooperation between the school and factory. Cites reasons why the night school is inadequate to cope with the question of the illiteracy of the foreign adult worker.

#### LIBRARIES AND READING.

415. **Hall, Mary E.** A day in a modern high school library. *Public libraries*, 23: 51-59, February 1918. illus.

Describes the library of the Girls' high school, Brooklyn, N. Y., of which the author is librarian.

416. **Hazeltine, Alice I., comp.** Library work with children. Reprints of papers and addresses. White Plains, N. Y. and New York city, The H. W. Wilson company, 1917. 396 p. 12°. (Classics of American librarianship, ed. by Arthur E. Bostwick)

417. **Jennings, J. T.** A plea for advanced instruction in library summer schools. *School and society*, 7: 156-60, February 9, 1918.

Shows the need of a more special and advanced type of instruction in library science in summer schools, where library workers, who have already had technical training, may find adequate equipment for the satisfactory solution of their problems.

#### BUREAU OF EDUCATION: RECENT PUBLICATIONS.

418. *Educational directory, 1917-18.* Washington, 1918. 200 p. (Bulletin, 1917, no. 43)
419. *Lessons in community and national life.* Washington, 1918. 6 pamphlets. 32 p. each. (Community leaflets, nos. 13-18)
- No. 13.—Lesson A-16: Caste in India. Lesson A-17: American mining law. Lesson A-18: Local and national governments. Lesson A-19: Active citizenship.
- No. 14.—Lesson B-17: The development of a system of laws. Lesson B-18: How state laws are made and enforced. Lesson B-19: The commission form of city government and the city manager. Lesson B-20: The church as a social institution.
- No. 15.—Lesson C-17: Custom as a basis for law. Lesson C-18: Cooperation through law. Lesson C-19: How the city cares for health. Lesson C-20: The family and social control.
- No. 16.—Lesson A-20: Private control of industry. Lesson A-21: Borrowing capital for modern business. Lesson A-22: The commercial bank and modern business. Lesson A-23: The services of money.
- No. 17.—Lesson B-21: National standards and the Bureau of Standards. Lesson B-22: Financing the war. Lesson B-23: Thrift and war savings.
- No. 18.—Lesson C-21: Before coins were made. Lesson C-22: The minting of coins. Lesson C-23: Paper money. Lesson C-24: Money in the community and the home.
420. *The preparation and the preservation of vegetables:* by Henrietta W. Calvin and Carrie A. Lyford. Washington, 1918. 24 p. (Bulletin, 1917, no. 47)
421. *Report of the Commissioner of education for the year ended June 30, 1917.* Vol. 2. Washington, 1917. 692 p.
422. *Secondary schools and the war.* Washington, 1918. 4 p. (Secondary school circular no. 1, January 1918)
423. *The story of a boy who did not grow up to be a tall strong man.* Washington, 1917. 16 p. (School sanitation leaflet no. 1, October 1917)
424. *Summer sessions of city schools;* by W. S. Deffenbaugh. Washington, 1918. 45 p. (Bulletin, 1917, no. 45)
425. *The township and community high school movement in Illinois;* by Horace A. Hollister. Washington, 1917. 48 p. plates. (Bulletin, 1917, no. 35)
426. *The work of American colleges and universities during the war. Report of the work of the university section of the Committee on engineering and education of the advisory commission of the Council of national defense.* Washington, 1917. 13 p. (Higher education circular no. 5, December 15, 1917)
427. *The work of American colleges and universities during the war. Report on the contribution of higher institutions to the national service.* Washington, 1918. 21 p. (Higher education circular no. 6, January 1918)



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 9

UNION LIST  
OF  
MATHEMATICAL PERIODICALS

*By*

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AND  
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WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# UNION LIST OF MATHEMATICAL PERIODICALS.

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## INTRODUCTION.

The following list of mathematical periodicals has been prepared for the use of research students in mathematics in the universities of the United States. It is not intended to be a complete list of all publications of this kind; indeed, such a catalogue, while very desirable from the bibliographical and historical standpoint, would not ordinarily serve the purposes of the graduate student in mathematics as well as a brief list of this nature. The selection has been made after consultation with a number of professors in those universities that have most to do with directing research work in mathematics in this country, and it represents the periodicals which, in the judgment of these advisers, the student will be most apt to consult in his investigations. The less frequently used journals should also, at some time, be listed, but this is a labor that should be undertaken with a view to compiling a complete bibliography of the subject.

The present list is divided into two parts. In the first part those periodicals appear which relate solely to mathematics, whether they are issued in the form of journals or of publications of scientific societies. The second part includes those periodicals which contain mathematical articles which the student will probably wish to consult, but which are not wholly concerned with such articles.

The index permits the student to refer at once to each list and also to find with ease the periodical for which he is looking under any one of various names by which it is known, or under the place of its publication.

The selection of libraries has been somewhat arbitrary. Those universities known to have large collections of works on mathematics have, of course, been included. Other universities which are undertaking graduate work leading to the doctor's degree and have a considerable number of sets of periodicals have also been included, but with the evident understanding that the list is by no means complete and that any scientific selection would be very difficult. Certain city libraries have naturally found place, but here again it is difficult to draw a line between those which might properly have place and those which might not. In general, the purpose has not been so much to include one library and not another as to include a fair number of prominent libraries geographically located at points accessible to students.

It is hoped that the list may render more convenient such loans as the rules of various libraries may permit, may give to students easy access to important periodicals that they may need to consult, and may assist all libraries intended for research students in mathematics in selecting the periodicals that such students need most frequently to use.

Students are advised to consult the list of periodicals in the library of the American Mathematical Society for certain current journals not frequently used and not found in enough libraries to make the inclusion of more than two or three in this union list of any particular value.

In general, the names of places are given with the local spellings and also with the spellings adopted in the publications of the United States Government.

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### LIBRARIES REPORTING.

[The catch word referring to each library is given in italics.]

- Adelbert College, Western Reserve University, Cleveland, Ohio. *Adelbert.*  
 American Mathematical Society, 501 West 116th St., New York City. *Am. Math. Soc.*  
 American Philosophical Society, 104 South Fifth St., Philadelphia, Pa. *Am. Phil. Soc.*  
 Boston Athenaeum, Boston, Mass. *Boston Athen.*  
 Brooklyn Public Library, Brooklyn, N. Y. *Brooklyn Pub.*  
 Brown University, Providence, R. I. *Brown.*  
 Bryn Mawr College, Bryn Mawr, Pa. *Bryn Mawr.*  
 Bureau of Standards, United States, Washington, D. C. *Bureau Standards.*  
 California, University of, Berkeley, Cal. *Calif.*  
 Case School of Applied Science, Cleveland, Ohio. *Case.*  
 Catholic University of America, Washington, D. C. *Catholic.*  
 Chicago, The University of, Chicago, Ill. *Chicago.*  
 Clark University, Worcester, Mass. *Clark.*  
 Coast and Geodetic Survey, United States, Washington, D. C. *Coast Geodetic.*  
 Columbia University, New York City. *Columbia.*  
 Congressional Library, Washington, D. C. *Congress.*  
 Cornell University, Ithaca, N. Y. *Cornell.*  
 Crerar. The John Crerar Library, Chicago, Ill. *Crerar.*  
 Dudley Observatory, Albany, N. Y. *Dudley.*  
 Harvard University, Cambridge, Mass. *Harvard.*  
 Haverford College, Haverford, Pa. *Haverford.*  
 Idaho, University of, Moscow, Idaho. *Idaho.*  
 Illinois, University of, Urbana, Ill. *Ill.*  
 Indiana, University of, Bloomington, Ind. *Indiana.*  
 Iowa, University of, Iowa City, Iowa. *Iowa.*  
 Johns Hopkins University, Baltimore, Md. *Johns Hopkins.*  
 Kansas, University of, Lawrence, Kan. *Kansas.*  
 Massachusetts Institute of Technology, Cambridge, Mass. *Mass. Tech.*  
 Michigan, University of, Ann Arbor, Mich. *Mich.*  
 Minnesota, University of, Minneapolis, Minn. *Minn.*  
 Missouri, University of, Columbia, Mo. *Mo.*  
 Naval Academy, United States, Annapolis, Md. *Naval Ac.*  
 Nebraska, University of, Lincoln, Neb. *Neb.*

New York Public Library, New York City. *N. Y. Pub.*  
 Northwestern University, Evanston, Ill. *Northwestern.*  
 Pennsylvania, University of, Philadelphia, Pa. *Pa.*  
 Philadelphia Free Library, Philadelphia, Pa. *Phila. Pub.*  
 Princeton University, Princeton, N. J. *Princeton.*  
 Purdue University, Lafayette, Ind. *Purdue.*  
 Rochester, University of, Rochester, N. Y. *Rochester.*  
 Throop College, Pasadena, Cal. *Throop.*  
 Stanford University, Stanford University, Cal. *Stanford.*  
 Syracuse University, Syracuse, N. Y. *Syracuse.*  
 Texas, University of, Austin, Texas. *Texas.*  
 Vassar College, Poughkeepsie, N. Y. *Vassar.*  
 Virginia, University of, University, Va. *Virginia.*  
 Washington, University of, Seattle, Wash. *Wash.*  
 Washington University, St. Louis, Mo. *Wash. (St. Louis).*  
 Wesleyan University, Middletown, Conn. *Wesleyan.*  
 Wisconsin, University of, Madison, Wis. *Wis.*  
 Yale University, New Haven, Conn. (Includes library of Sheffield Scientific School  
 and that of the Mathematics Seminar.) *Yale*  
 Yerkes Observatory, Geneva Lake, Wis. *Yerkes.*

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### GEOGRAPHICAL DISTRIBUTION OF LIBRARIES.

[The catchword referring to the library is given in Italics.]

Albany, N. Y. *Dudley.*  
 Ann Arbor, Mich. *Mich.*  
 Annapolis, Md. *Naval Ac.*  
 Austin, Texas. *Texas.*  
 Baltimore, Md. *Johns Hopkins.*  
 Berkeley, Cal. *Calif.*  
 Bloomington, Ind. *Indiana.*  
 Boston, Mass. *Boston Athen.* (See also Cambridge.)  
 Brooklyn, N. Y. *Brooklyn Pub.*  
 Bryn Mawr, Pa. *Bryn Mawr.*  
 California. See Berkeley, Pasadena, Stanford University.\*  
 Cambridge, Mass. *Harvard, Mass. Tech.*  
 Champaign, Ill. See Urbana.  
 Chicago, Ill. *Chicago, Crerar.*  
 Cleveland, Ohio. *Adelbert, Case.*  
 Columbia, Mo. *Mo.*  
 Connecticut. See Middletown, New Haven.  
 District of Columbia. See Washington, D. C.  
 Evanston, Ill. *Northwestern.*  
 Geneva Lake, Wis. *Yerkes.*  
 Haverford, Pa. *Haverford.*  
 Idaho. See Moscow.  
 Illinois. See Chicago, Evanston, Urbana.  
 Indiana. See Bloomington, Lafayette.  
 Iowa. See Iowa City.  
 Iowa City, Iowa. *Iowa.*  
 Ithaca, N. Y. *Cornell.*  
 Kansas. See Lawrence.

- Lafayette, Ind. *Purdue*.  
 Lawrence, Kan. *Kansas*.  
 Lincoln, Neb. *Neb*.  
 Madison, Wis. *Wis*.  
 Maryland. *See* Annapolis, Baltimore.  
 Massachusetts. *See* Boston, Cambridge, Worcester.  
 Michigan. *See* Ann Arbor.  
 Middletown, Conn. *Wesleyan*.  
 Minneapolis, Minn. *Minn*.  
 Minnesota. *See* Minneapolis.  
 Missouri. *See* Columbia, St. Louis.  
 Moscow, Idaho. *Idaho*.  
 Nebraska. *See* Lincoln.  
 New Haven, Conn. *Yale*. (Includes Sheffield Sci. Sch. and the Math. Seminar.)  
 New Jersey. *See* Princeton.  
 New York City. *Am. Math. Soc., Columbia, N. Y. Pub*.  
 New York (State). *See* Albany, Brooklyn, Ithaca, New York City, Poughkeepsie, Rochester, Syracuse.  
 Ohio. *See* Cleveland.  
 Palo Alto, Cal. *See* Stanford University.  
 Pasadena, Cal. *Throop*.  
 Pennsylvania. *See* Bryn Mawr, Haverford, Philadelphia.  
 Philadelphia, Pa. *Am. Phil. Soc., Pa., Phila. Pub*.  
 Poughkeepsie, N. Y. *Vassar*.  
 Princeton, N. J. *Princeton*.  
 Providence, R. I. *Brown*.  
 Rhode Island. *See* Providence.  
 Rochester, N. Y. *Rochester*.  
 St. Louis, Mo. *Wash. (St. Louis.)*  
 Seattle, Wash. *Wash*.  
 Stanford University, Cal. *Stanford*.  
 Syracuse, N. Y. *Syracuse*.  
 Texas. *See* Austin.  
 University, Va. *Virginia*.  
 Urbana, Ill. *Ill*.  
 Virginia. *See* University.  
 Washington, D. C. *Bureau Standards, Catholic, Coast Geodetic, Congress*.  
 Washington (State). *See* Seattle.  
 Wisconsin. *See* Geneva Lake, Madison.  
 Worcester, Mass. *Clark*.

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## I. MATHEMATICAL PERIODICALS.

(For a complete list with cross references, see the Index.)

- Acta Mathematica*.  
*American Journal of Mathematics*.  
*American Mathematical Monthly*.  
*Analyst*.  
*Annali di Matematica Pura ed Applicata*.  
*Annals of Mathematics*.  
*Archivo de Matemáticas*.  
*Bibliotheca Mathematica*.  
*Bollettino di Bibliografia e Storia delle Scienze Matematiche*. (Loria.)

- Bollettino di Matematica. (Conti.)  
 Bulletin des Sciences Mathématiques. (Darboux.)  
 Calcutta Mathematical Society. Bulletin.  
 Cambridge and Dublin Mathematical Journal.  
 Cambridge Mathematical Journal.  
 Crelle's Journal für die Reine und Angewandte Mathematik.  
 Deutsche Mathematiker-Vereinigung. Jahresbericht.  
 ——— Jahresbericht, Ergänzungsbände.  
 Edinburgh Mathematical Society. Proceedings.  
 L'Education Mathématique.  
 L'Enseignement Mathématique.  
 Formulaire de Mathématique.  
 Gazeta Matematica.  
 Gentleman's Diary or Mathematical Repository.  
 Gentleman's Mathematical Companion.  
 Gergonne's Annales de Mathématiques Pures et Appliquées.  
 Giornale di Matematiche. (Battaglini.)  
 Göttingen. Mathematischer Verein. Berichte.  
 Hamburg. Mathematische Gesellschaft. Mitteilungen.  
 Indian Mathematical Society. Journal.  
 L'Intermédiaire des Mathématiciens.  
 Jahrbuch über die Fortschritte der Mathematik.  
 Journal de Mathématiques Élémentaires. (Vuibert.)  
 Kharkov Mathematical Society. Communications.  
 Ladies' Diary.  
 Lady's and Gentleman's Diary.  
 Liouville's Journal de Mathématiques Pures et Appliquées.  
 London Mathematical Society. Proceedings.  
 Madras. See Indian Mathematical Society.  
 Madrid. Sociedad Matemática Española. Revista.  
 Magyar Tudományos Akadémia. Értekezések a Matematikai Osztály Kőreiből.  
 Le Matematiche Pure ed Applicate.  
 Mathematical Gazette.  
 Mathematical Magazine.  
 Mathematical Miscellany.  
 Mathematical Monthly. (Runkle.)  
 Mathematical Questions and Solutions from the "Educational Times."  
 Mathematical Repository. (Dodson, Leybourn.)  
 Mathematiceskij Zistok.  
 The Mathematician.  
 The Mathematics Teacher.  
 Mathematische Annalen.  
 Mathesis.  
 Messenger of Mathematics.  
 Moscow Mathematical Society. Transactions. (Matematicheski Sbornik.)  
 New York. American Mathematical Society. Bulletin.  
 ——— Transactions.  
 New York Mathematical Society. Bulletin.  
 Nieuw Archief voor Wiskunde.  
 Nouvelle Correspondance Mathématique.  
 Nouvelles Annales de Mathématiques.  
 Nyt Tidsskrift for Matematik.  
 Palermo. Circolo Matematico. Rendiconti.  
 ——— Rendiconti, Supplemento.

Paris. Société Mathématique de France. Bulletin.

——— Comptes Rendus des Séances.

Periodico di Matematica.

——— Supplemento.

Philadelphia. University of Pennsylvania. Publications: Mathematics.

Il Pitagora.

El Progreso Matematico.

Quarterly Journal of Pure and Applied Mathematics.

Repertorium der literarischen Arbeiten aus dem Gebiete der Reinen und Angewandten Mathematik.

Revista Trimestral di Matemáticas.

Revue de Mathématiques. (Rivista di Matematica.)

Revue de Mathématiques Spéciales.

Revue Semestrielle des Publications Mathématiques.

Sphinx-Œdipe.

Tôhoku Mathematical Journal.

Wiadomości Matematyczne.

Wiskundige Opgaven met de Oplossingen.

Wiskundig Tijdschrift.

ACTA MATHEMATICA. *Stockholm.*

Vols. 1 (1882-83)—

Adelbert. Vols. 40—

Amer. Math. Soc. Vols. 1—

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ANALYST. *Des Moines.*

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ANNALI DI MATEMATICA PURA ED APPLICATA. *Milano (Milan) and Roma (Rome).*

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Adelbert. Ser. 3, Vols. 25-

Amer. Math. Soc. Ser. 2, Vols. 3, 9;  
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ANNALS OF MATHEMATICS. *Princeton.*

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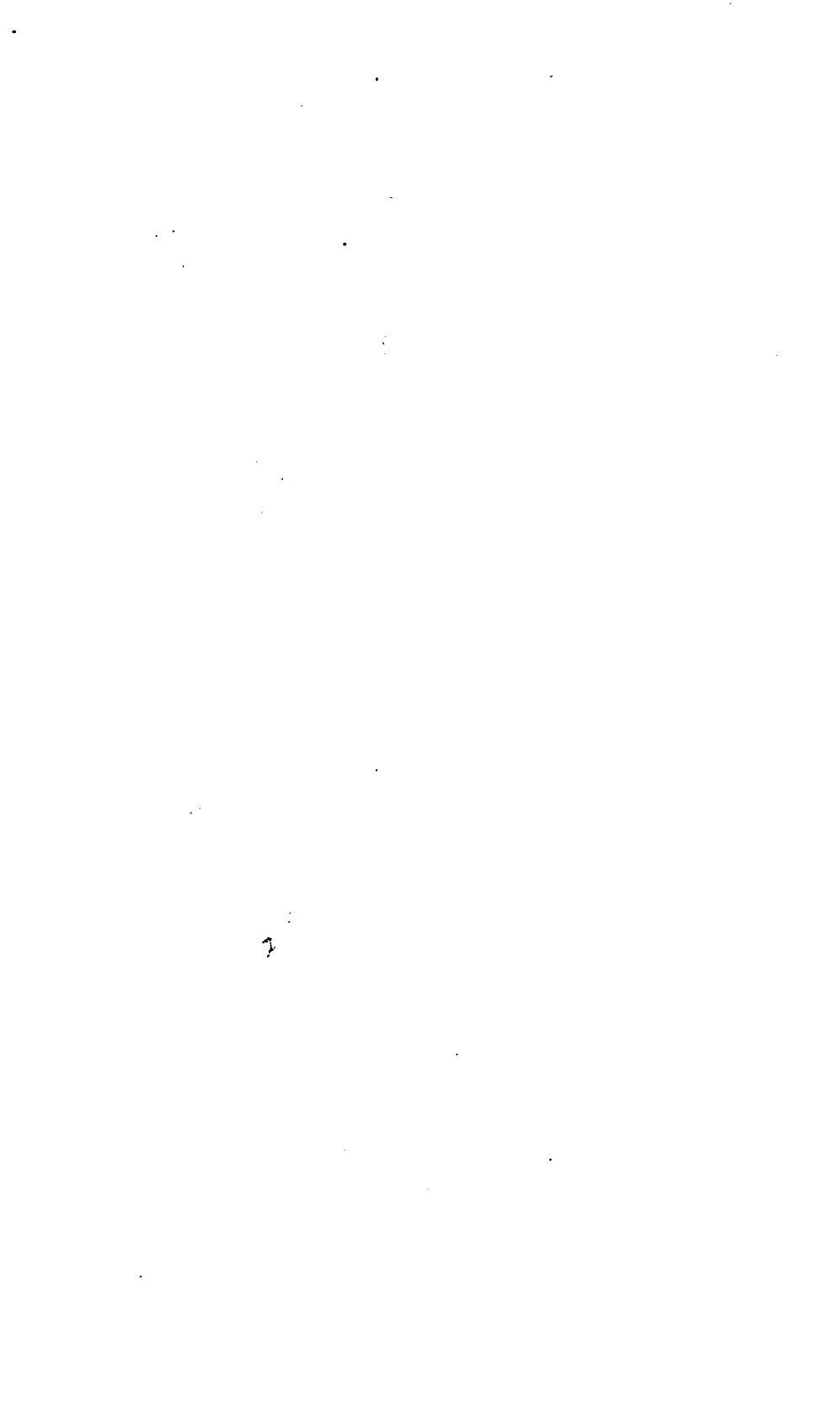
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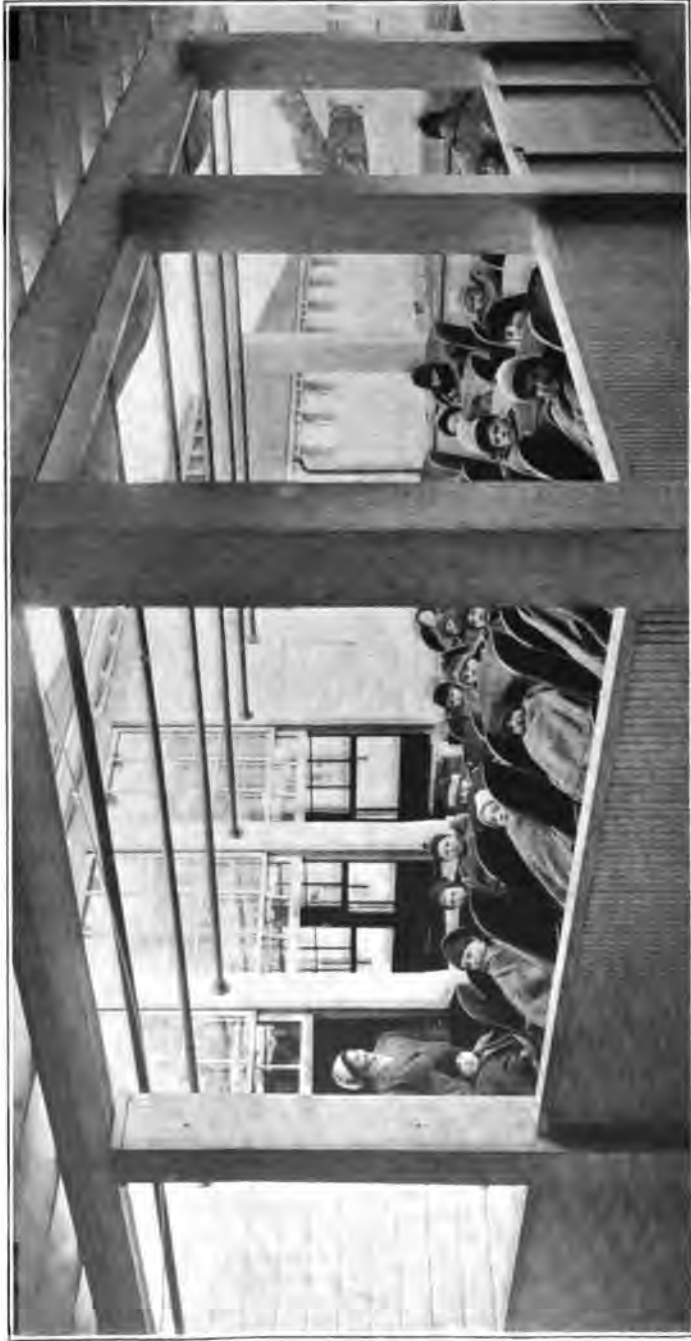
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- Mth. Gz. See Mathematical Gazette.
- Mth. Misc. See Mathematical Miscellany.
- Mth. Nt. B. Ung. See Math. und Nat. Berichte aus Ungarn.
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- Zür. Vjschr. See Zürich.





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Outdoor Class.

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 10

PUBLIC SCHOOL CLASSES FOR  
CRIPPLED CHILDREN

BY

EDITH REEVES SOLENBERGER



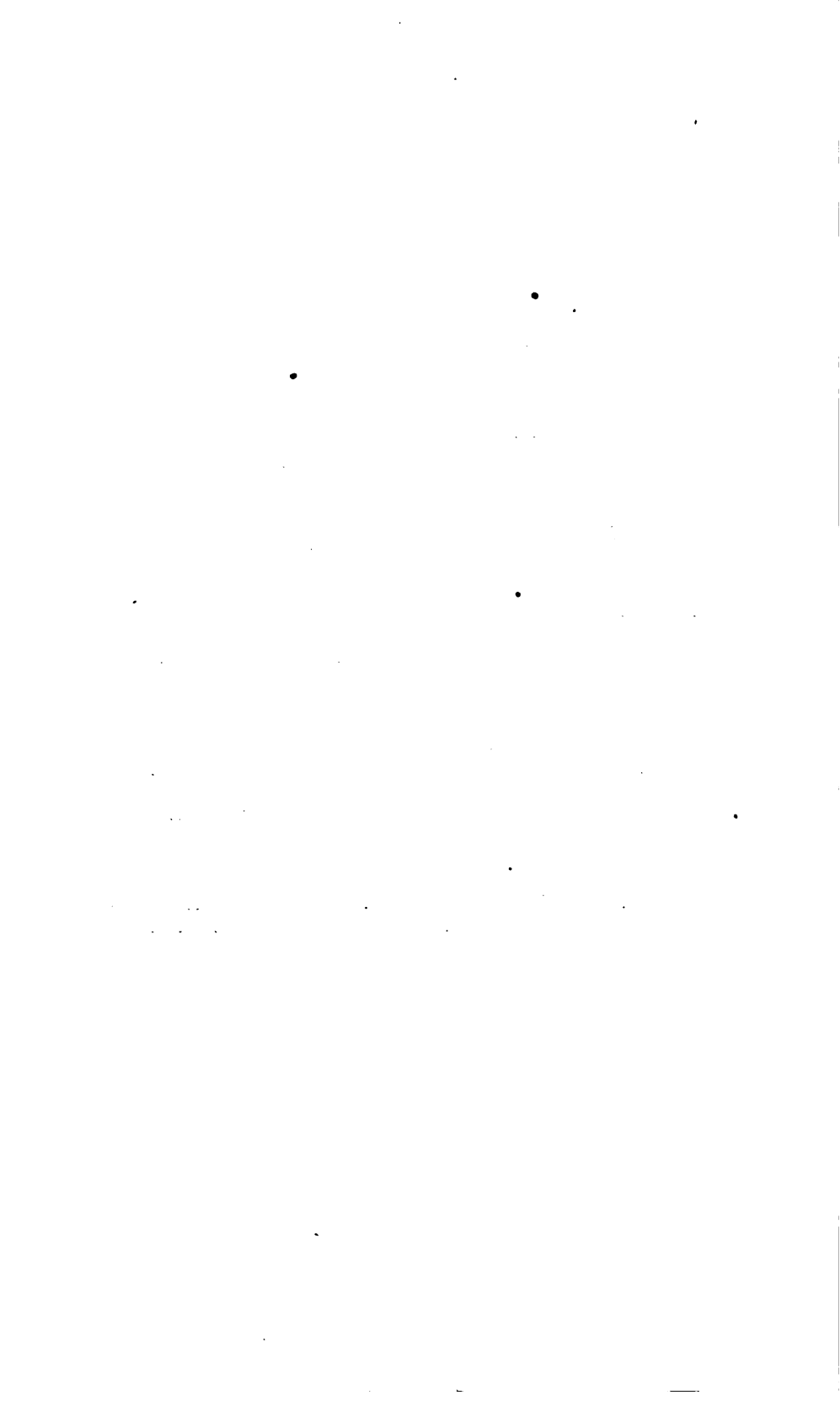
WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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## LETTER OF TRANSMITTAL

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, December 26, 1917.*

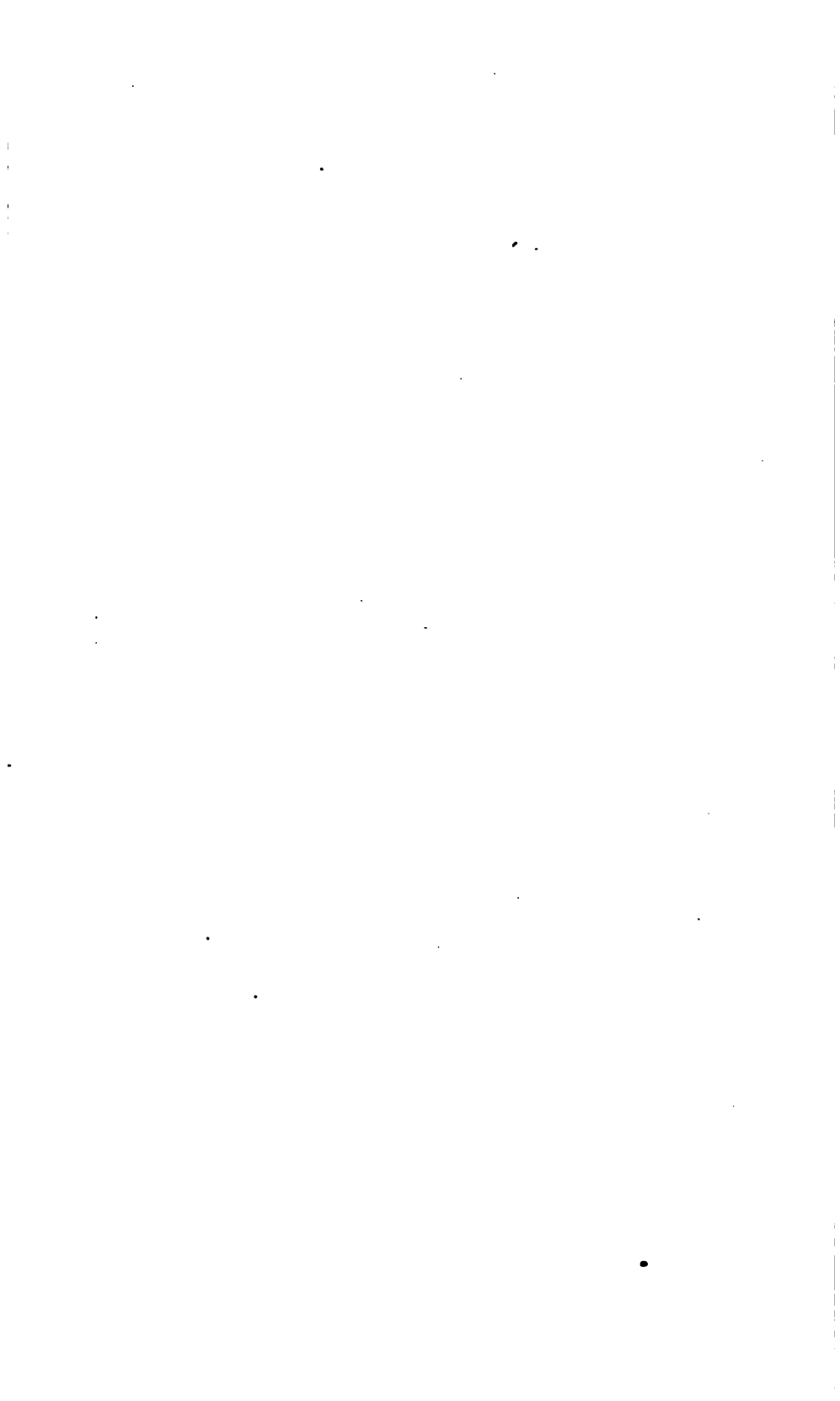
SIR: Although there are in the United States many thousands of crippled children, probably as many as there are of deaf and blind, little attention has been given them as a class. They are not even enumerated in the decennial Federal census. While special provision for the deaf and blind children is made in all States and for feeble-minded and incorrigible children in most of the States, few States make any special provision for the care and education of crippled children, and in only half a dozen cities are there separate schools or classes for them, and in the schools of most cities, towns, and rural districts not even suitable seats and desks are provided for them. It is therefore all the more important that what has been done by the public schools of the few cities that have given most attention to this matter be known.

The manuscript transmitted herewith on public school classes for crippled children is the result of a study made at my request by Edith Reeves Solenberger. I recommend that it be published as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.



# PUBLIC SCHOOL CLASSES FOR CRIPPLED CHILDREN.

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## INTRODUCTION.

Every child wants to be like other children. The habit of children over 6 years of age is to go to school. Any child who is unable to do so because he is physically crippled misses a great deal more than instruction. Many crippled children have grown up to be "queer" in an unnecessary degree because they have mingled so little with children of their own age. They have been treated in special fashion by their parents, sometimes harshly in ignorant homes, but more often with a mistaken kindness which saved the "poor cripple" of the family all exertion and robbed him of the ambition to develop such powers of mind and body as he possessed. For such children there is no other tonic like the give-and-take of life in the schoolroom and on the playground.

*Cripples in regular classes.*—A great many children with slight deformities have always attended school in regular classes with children not so handicapped. People who have worked for years with crippled children say that a crippled child able to do so profits by attending school with children not crippled. For that reason the superintendents of institutions for crippled children sometimes send the stronger ones out to attend public school classes, even though the institution has a good school.<sup>1</sup>

*Separate public school classes for cripples.*—But the educational needs of many crippled children can not be met in classes attended by children who are physically sound. Cripples who are not able to go to regular classes can attend separate classes for cripples, where provision is made for their transportation and for their comfort and safety while in school. In addition to special care for the health of the children, these classes for cripples offer school opportunities to some deformed children who are very sensitive about their appearance and incapacity. They feel at ease where they find other children who have the same difficulties.

Special classes for crippled children have been opened in public and private day schools in six of the large cities of the United States, namely, New York, Chicago, Philadelphia, Baltimore, Cleveland, and Detroit. This pamphlet will treat in detail the work of these day

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<sup>1</sup> For example, the Industrial Home for Crippled Children in Pittsburgh.

schools, but brief mention should be made of the large amount of educational work done in residential institutions, some of them private, others maintained by the States in which they are located.<sup>1</sup>

*Instruction in hospitals.*—School work is undertaken in some hospitals where orthopedic operations are performed and children are kept for brief periods of recuperation. The instruction in hospitals, however, is always incidental to the physical cure of the children. It is often undertaken because a small amount of study amuses the children and is thought by the doctors to facilitate their cure, rather than because much educational advance is expected.

In addition there are a considerable number of convalescent hospitals for crippled children, usually located in the country, where large numbers of crippled children live for long periods while still undergoing treatment. The State hospital schools for cripples in Massachusetts, New York, Nebraska, and Minnesota have large graded schools comparable at all points with the best public schools in their vicinity. There are half a dozen private residential institutions in various States with excellent graded schools. The most conspicuous of these is the Widener Memorial School in Philadelphia, a magnificently endowed institution, where the school, like all its other departments, has the best possible equipment and the highest standard of instruction.

The grading in schools maintained by convalescent hospitals for children is sometimes less exact than in day schools because some of the children are more badly crippled. They have to drop out of school occasionally for operations and sometimes attend irregularly while taking special treatments. On the other hand, children who need special surgical treatments are often better able to keep up with their school work if they live at one of the institutions than they would be if they lived at home and made frequent trips to a dispensary. The institution schools include, perhaps, a larger number of crippled children who have never attended school before and are far behind the usual grade for their age than the day school classes for cripples.

*Teachers sent to institutions for cripples.*—In three cities the boards of education have sent public-school teachers to private institutions to organize classes among the crippled patients. Most of the children attending these classes are able to come to a room set aside for school work, but individual children confined to their beds often receive instruction from the teachers. This cooperation between the public schools and the institutions for cripples has been developed most strikingly in Baltimore, where there is a class for cripples with a

<sup>1</sup> Residential institutions for crippled children in the United States were visited by the writer in the course of a study made for the Russell Sage Foundation of New York. A detailed description of the work of 37 hospitals, convalescent hospitals, and asylum homes will be found in the Foundation's volume, "Care and Education of Crippled Children," by Edith Reeves

public-school teacher in each of the three institutions for crippled children, the Kernan Hospital and Industrial School for Crippled Children, the Children's Hospital School, and the Johns Hopkins Hospital School and Convalescent Home for Crippled Children (colored). In Philadelphia one public-school teacher is assigned to the Orthopedic Hospital. In Chicago one public-school teacher is assigned to the Home for Destitute Crippled Children, which is located near the Spalding School for Cripples. Most of the 25 pupils at the institution are bed cases and the teacher's work is individual instruction.

#### HISTORY OF DAY-SCHOOL CLASSES.<sup>1</sup>

The history of day-school classes for cripples in America shows in several cities a gradual transition from private to public responsibility. Any city board of education may usually be persuaded to provide a teacher for crippled children on the ground that if they were not crippled they would certainly have a right to instruction in the public schools and teachers would have to be furnished for them. The provision of special seats and other accommodations which make crippled children more comfortable is usually the next step, since it is simply an extension of the school's usual custom in providing equipment for classrooms. The two special items of expense which a city usually undertakes last are the transportation of cripples in busses, and the provision of free lunches.

The best illustration of this development is the work in Cleveland, Ohio. The assistant superintendent, Mr. Henry C. Muckley, writes:

Our school for cripples is the culmination of a process of evolution. It began with an organization of women known as the Sunbeam Circle, who gathered together a few crippled children in a school and furnished for them a teacher. The next step in the evolution was that the board of education furnished the teacher. Then the board of education built a suitable building to accommodate these children. Meanwhile, the Sunbeam Circle transported them from their homes to the school and back again. This function is now performed by the board of education. The Sunbeam Circle still continued to furnish lunches for the children; now the board of education furnishes everything, the children's lunches, transportation, general equipment, etc. In other words, the school for cripples is a part of our organization.

Chicago, Detroit, and Baltimore, like Cleveland, provide without cost everything needed by the crippled children, including lunches and transportation. In Philadelphia all expenses are borne by the city except the lunches, which are still supplied by private charity.

In New York the city first provided instruction and equipment for cripples in separate classes and their transportation was privately furnished. Then the city contracted for a gradually increasing number of busses, and the remaining busses were supplied by the Assq-

<sup>1</sup> The first public-school classes for cripples in the United States were opened in Chicago in 1887. Similar classes were opened in New York in 1906; in Detroit in 1910; in Cleveland in 1910; in Philadelphia and Baltimore in 1913.

ciation for the Aid of Crippled Children for many years. At present that association maintains only two busses, while the city furnishes 40. Lunches are sold to crippled children in New York for very small sums, and charitable associations contribute toward the cost of the food in some cases.

One city, Grand Rapids, Mich., has begun its work for crippled children in an unusual way. Crippled children are transported to and from school in busses maintained by the city, but separate classes for crippled children have not yet been organized.

#### ADMISSION TO SPECIAL CLASSES.

The admission of children into separate classes for cripples in the public schools is determined by different tests in the various cities. The assistant superintendent of schools in Cleveland says of their special school:

Not all crippled children are admitted, of course. In our definition, a crippled child is a child that can not help himself to school. Many children are cripples who go to regular school.

This test is a practicable one so long as exceptions are made in particular cases. The vast majority of children in each class for cripples must be transported to school. There are sometimes, however, a very small number of children living close to the school for cripples and able to walk, and possibly a few able to use the street cars, who are, nevertheless, better able to attend a class specially equipped for cripples than they are to go to a regular classroom. Children unable to walk at all are seldom admitted to public-school classes because they require more help than teachers or matrons have time to give. Final decision as to whether or not a crippled child needs the facilities of a special class is usually left to the orthopedic surgeon who diagnoses the child's physical difficulty and is best able to judge his capacity. The very complete record cards used in New York schools<sup>1</sup> require the surgeon to state whether or not the child is able to attend school and also whether or not he should be in a separate class for crippled children.

The actual procedure by which a child is admitted to a special class for cripples is fundamentally the same in the different cities. It is given as follows for the Cleveland School for Cripples:

Pupils are admitted to this school upon recommendation of the Department of Medical Supervision. The initial step, however, is usually taken by the parents of the children themselves, who, knowing that there is a school of this kind to which children are sent, are glad to have their crippled children avail themselves of this privilege. They usually notify the school directly and the principal informs the medical department of the fact that the child is asking admission. An investigation is made and the admission of the child is recommended to the assistant superintendent having that school in charge; he approves and the transfer is made.

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<sup>1</sup>See Appendix p. 49.

## WHY THE CHILDREN ARE CRIPPLED.

It is important that every teacher of crippled children should have an elementary knowledge of the different physical difficulties which have caused them to become crippled. In a limited space it is impossible to enumerate all the different causes which give children handicaps, but mention will be made of some of the frequent types of cases.

*Infantile paralysis* has been within recent years the best-known cause of crippling among children. The epidemic which included so many children during the summer of 1916 will probably increase the proportion of paralysis cases among crippled children in public schools. When these children come to school they have no active disease whatsoever, and their general health is often excellent, but they have little or no use of one or both hands, or one or both legs, or, very often, are unable to use one hand and one leg. The building up of their paralyzed muscles is an exceedingly slow process, but surprisingly good results have been obtained by many months or years of special gymnastics and massage. Operative measures are sometimes employed also. Most of the children whose legs have been affected by paralysis come to the public schools wearing braces; a few with limbs badly paralyzed are confined to wheel chairs. They are very hopeful objects of a teacher's attention, for they can safely be urged to study as earnestly as any other children. They often constitute the bulk of the enrollment in a class for crippled children, and they usually stay in the special classes for a good many years before they are able to go to regular classes. Many of them are never able to attend school except in special classes for cripples.

*Other causes.*—For purposes of instruction we may class with the children who have had infantile paralysis those whose limbs have become twisted through rickets or certain inflammatory diseases, those who have lost one or more limbs as a result of accidents, and the small number of children born deformed. All of these children may be perfectly sound as to their general health and able to do excellent work in school, although they can not walk well nor, in some cases, use their hands efficiently.

*Bone tuberculosis.*—Special consideration in some ways must be given by the teacher to those children who have or have had bone tuberculosis, usually of the spine or of the hip joint. Some of these children come to school wearing braces, but many of them have the diseased joint or spine held firm by a jacket of plaster of Paris. In regard to children with bone tuberculosis, there is sharp difference of opinion among surgeons as to whether they should attend public schools. Some orthopedic surgeons believe that all children with active bone tuberculosis should be in country convalescent hospital schools, where their physical condition may be under constant medical supervision

Others believe that some such children can safely live at home and attend special classes for cripples in the public schools if their parents and the visiting nurses from the hospitals see to it that they report frequently at the hospital dispensaries for treatment. When these children do come to the public schools they must be surrounded by the best of conditions for their general health. They have special need of fresh air and nourishing food. They must be carefully watched, while exercising, to prevent overexertion.

Many children who have had bone tuberculosis have entirely recovered from the disease, although they are deformed. They may, therefore, be classed as pupils with the children who are paralyzed, congenitally deformed, etc., rather than with those who have active tuberculosis, with this important difference: Any child who has ever had bone tuberculosis should be surrounded by the very best conditions for his general health in order to prevent the return of the disease or the beginning of lung tuberculosis in later years.

*Classification of defects.*—The proportion of children with each type of physical defect varies from school to school. Of the children attending the Spalding School in Chicago in 1915-16, 50 per cent were partially paralyzed, the majority as a result of infantile paralysis; 25 per cent were classified as bone tuberculosis cases; the other 25 per cent included those crippled by inflammatory diseases and by accident, and those congenitally deformed. In New York City about one-third of all the cripples in attendance in the special classes for cripples are classified as having active bone tuberculosis.<sup>1</sup>

In New York City, crippled children with bone tuberculosis have been segregated into separate classes in six different public schools where there are several classes for cripples in the building. We shall discuss further the special needs of crippled pupils who have bone tuberculosis later in this bulletin when taking up the subject of supervision of the health of the children in classes for cripples.<sup>2</sup>

#### SPECIAL BUILDINGS FOR CRIPPLES.

Most of the classes for cripples are very likely to include children of all the foregoing physical types. The provisions for their comfort and safety in the public schools are, therefore, in most of the school buildings, such as to accommodate as well as possible all the different classes of cripples. There are four day school buildings in the United States which were especially designed and built for the exclusive use of crippled children. Any board of education which plans the erection of a school for cripples will find it profitable to send a representative to visit some of these buildings, or to procure copies of the architects' plans from which they were constructed.

<sup>1</sup> See Rep. Supt. Schools, New York, 1914-15, pp. 110-112.

<sup>2</sup> See pp. 15 and 22.



*Chicago.*—The Spalding School in Chicago is the only permanent school building in the United States erected and maintained entirely by a city board of education for the exclusive use of crippled children.<sup>1</sup> It is a one-story and attic building, only slightly elevated above the street. On the ground floor there are five classrooms, an assembly hall, a kitchen, dining room, nurse's room, bathroom, and rest room. The attic, which is reached by an incline from the first floor, contains the industrial classrooms. The children in the attic rooms are protected against accident in case of fire by specially designed fire escapes recently completed. An incline 100 feet long leads from each end of the attic directly to the ground. An addition to this building has been authorized by the board of education, to cost \$82,000. It will contain four additional classrooms, three large industrial rooms, masseur's room, receiving room, bathroom, and a large sun room with glass roof.

*Cleveland.*—The only other public school for cripples which is housed in a building erected at city expense for the exclusive use of crippled children is the school in Cleveland. This is a one-story wooden building, located in a large yard at the rear of the Wilson School, one of the large public schools of the city. The building for cripples has classrooms, dining room, kitchen, and surgical dressing room. While the Spalding School in Chicago is an excellent model for cripples' schools built of stone or other permanent material, this smaller wooden building in Cleveland shows how well a building erected at much less cost can serve the needs of crippled children.

*Boston.*—The Industrial School for Crippled and Deformed Children in Boston is a purely private day school for cripples. Its large building, with classrooms for 100 grade pupils and several large industrial workrooms, was designed especially for the use of cripples, and is well worth the attention of public school officials who plan the erection of similar buildings.

*New York.*—The building occupied by the Crippled Children's East Side Free School in New York is privately owned, although the City of New York now finances the grade classes for cripples which are conducted there. This is the largest day school for cripples in America. The classrooms accommodate 200 children, and there are also large workrooms and a roof playground. This building and the Boston school have classrooms on several floors; both buildings have elevators of unusual size which take the children from floor to floor in perfect safety. The stairways have broad treads at easy distances.

*Special rooms for crippled children.*—By far the greater number of crippled children attending special public-school classes for cripples

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<sup>1</sup> Plans have been drawn for a permanent building in Detroit.

are taught in rooms set aside for them in large school buildings where there are also many classes for children who are not crippled. This is true of all the classes in public-school buildings in Philadelphia, Baltimore, and Detroit, one of the two public schools for cripples in Chicago, and all the classes in New York except those in the Crippled Children's East Side Free School. In all these cities the crippled children are always given the best rooms in each building, located on the first floor, so that the children will not need to climb stairs. Wherever possible, the crippled children have been assigned to rooms with a sunny exposure, because it is recognized that cheerful surroundings affect the spirits of the children, as well as because sunny rooms are more healthful. Basement rooms are not used, although they could sometimes be reached without the use of steps and would in that respect be superior to first-floor rooms. It has been found better to have the children helped up the steps to the first floor by the attendant or driver of the stage which brings them to school than to give them basement rooms, because the latter usually have poorer light and air and are more likely to be damp, cold, and noisy.

*Architectural features.*—The rooms for crippled children are so located that as many easy exits as possible are available for use in case of fire. Thresholds are usually absent altogether, because they would cause a child with crutches or a brace to stumble. It is important also to have wide aisles in schoolrooms for crippled children. If the aisles are narrow the crippled child who walks along them is likely to stumble over the extended feet of seated children who are wearing braces. Where the school can afford such provision, strips of rubber or cork are laid on hall floors and stairs, and similar material is sometimes used for covering entire floors of gymnasiums and playrooms. In a few buildings, one of them the school in Cleveland, there are handrails along the walls at low levels by which paralyzed children or others who can not walk well help themselves along. Toilets and lavatories are conveniently located. The toilet seats are either of varying heights or all so low as to be convenient for the smaller children and those who are most crippled.

#### EQUIPMENT.

*Adjustable seats and desks.*—In the schoolrooms adjustable seats and desks are usually provided. Sometimes the seats are so constructed that one or both sides can be dropped in case the child using the seat has one or both legs held straight by brace or plaster; while the backs can be adjusted at any angle and the seat raised or lowered at will. The desks which go with these elaborate seats are also adjustable as to height, and the top of the desk can be moved backward and forward. This special equipment is somewhat expensive. One set costs usually from \$17 to \$19. Other schools use desks and

seats which can be adjusted as to height, and seats with one central support instead of two side supports, so that there may be more room for a child whose legs are encumbered by apparatus. Many teachers believe that these partially adjustable desks and seats are entirely satisfactory for the greater number of crippled children, and a half dozen of the more costly drop seats is a sufficient number in the average schoolroom. At the Massachusetts Hospital school the desks and seats are not fastened to the floor, because it has been found that a child is sometimes able to take a more comfortable position through a slight change in the position of the desk or seat.

There are even a few teachers who are entirely satisfied with ordinary nonadjustable desks and seats like those used in some public schoolrooms. They say that the children take positions which they find comfortable, and that the ordinary equipment is quite satisfactory when seats and desks of varying heights are provided, so that each child may have the size to which he can best adapt himself. It is the writer's conclusion after visiting practically all the schools for cripples in America, both day schools and those in institutions, that the semiadjustable desks and seats are distinctly better for all crippled children than those which can not be adjusted at all, and that at least half a dozen of the specially adjustable seats should be furnished in each classroom for cripples if the necessary expense can be met.

*Special equipment.*—Special seats and desks are the chief items of expense in equipping a schoolroom for use by crippled children. Some schools have in addition a small number of wheel chairs for use by paralyzed children who can not sit comfortably in any other kind of seat. In most schools a few couches or sanitary cots are provided upon which the children may lie down for rest periods.

Special equipment is particularly necessary for a class composed entirely of crippled children who have active tuberculosis. The equipment ordered for such a class in Public School 69 in New York is recommended for similar classes:

1. Adjustable seats and desks, also air cushions, to make more comfortable seating for some children.
2. Sanitary iron couches with washable canvas stretchers and air pillows, for use during rest periods.
3. New model folding chair planned by the New York department of physical training for tubercular hip cases, or for other children who can not lie upon the couches comfortably.
4. Blankets and sweaters for use during rest periods in cold weather.

*Handwork equipment.*—Finally, a school for cripples must have more than the ordinary amount of equipment and supplies for handwork. Many of the classrooms have small looms for making rugs; all of them have liberal provision for work with paper, yarn, raffia, and reed, and cloth for sewing classes. Any school which undertakes

special trade classes for older children requires, of course, a much greater expenditure for tools and machinery and for working materials.

#### TRANSPORTATION.

Aside from these details of architecture and equipment, two other special provisions, always necessary in connection with day schools for crippled children, are among the largest items of expense in such schools; namely, the busses which bring the children to school in the morning and take them home at night, usually accompanied by a nurse or a second man attendant in addition to the driver, and, secondly, the food served free or for very small payments at most of the day schools.

The crippled children are transported to and from their homes and the schools by omnibuses which travel along carefully planned routes so laid out that each bus gathers children from its section of the city with as little waste travel as possible. Horse-drawn omnibuses were first employed to transfer crippled children in most of the cities, and are still used in Philadelphia, in Cleveland, and to some extent in New York. In some cases the work was begun with ordinary carriages. But motor omnibuses are gradually replacing the horse vehicles. Motor busses are preferred because they make much faster time. For that reason they can cover a wider area and bring children from greater distances. Each bus can usually make several trips before and after school, and the children taken on each trip reach their destination much more quickly than they did in the horse-drawn busses. The children enjoy their rides to and from school, but it is not desirable that the journey should be more than three-quarters of an hour in length if that can be avoided, since some of the children become too weary if they sit long at a time. The motor busses are more easily warmed, also, and therefore better in cold weather than horse busses.

In several cities the busses are provided by private owners who are paid by the city under contract. In Chicago, Detroit, and Baltimore the children are transported in police-patrol automobiles. In Baltimore the patrols used for the crippled children are marked "School Ambulance." The report of the New York superintendent of schools for 1915-16 (pp. 95-96) recommends that the city should purchase outright several motor busses with removable seats and cushions. These busses could be used not only for the transportation of crippled children to and from school but for their transportation to hospitals for treatment. On Saturdays and during vacation periods the seats and cushions could be removed and the busses could be used for ordinary transportation of supplies.

*Drivers and attendants.*—Each stage has a driver and an attendant able to lift the more helpless children. These attendants are some-



**A. NEW ENGLAND PEABODY HOME FOR CRIPPLED CHILDREN, HYDE PARK, MASS.**



**B. INDUSTRIAL SCHOOL FOR CRIPPLED AND DEFORMED CHILDREN, BOSTON, MASS.**



A. OMNIBUS USED FOR TRANSPORTING CRIPPLED CHILDREN, NEW YORK.



B. ADJUSTABLE SEAT AND DESK USED IN SPECIAL CLASSES FOR CRIPPLES IN PUBLIC SCHOOLS OF NEW YORK.

times women but more often men. In several cases police officers have been employed. When the attendant is a woman the driver is expected to help to carry the larger children. In New York City the 28 stages furnished by the city have men attendants. The stages provided by the Association for the Aid of Crippled Children are accompanied by women nurses. The special teacher in charge of physically handicapped children urges the superiority of women attendants. She says:

The contract (to supply stage service paid for by the city) should also require the presence of a woman attendant in the stage instead of men or boys. In stages having women attendants results have been very satisfactory in the improved conduct of the children during transportation, in securing home care for the children, and in improved attendance. It would be a valuable addition to the home inspection if nurses from the board of health could be assigned to this work.

The use of men as attendants has thus far been in most cases a matter of convenience. Patrolmen have been assigned to this work in cities where children are transported in police-patrol wagons because this could be done without the expense of extra employees.

#### FOOD.

The second large item of expense in separate classes for cripples is the food served free or for very small payments. Hot lunches are usually given to the children at noon, consisting of a hot soup or stew, bread, cocoa, or milk, and a simple pudding. One or more vegetables are sometimes added. In many classes milk or milk and crackers are served when the children reach school or in the middle of the morning. In Chicago, Cleveland, Detroit, and Baltimore the food is furnished entirely free by the city. In New York and Philadelphia the bulk of the expense is met by private contributions, and the children make small payments if they are able to do so. For example, in Public School 107, in New York, soup was served for 3 cents, and sandwiches, cookies, cocoa, milk, etc., for 1 cent each. The children there are required to take the soup before they are allowed to have sweets. In some schools, where cripples buy food in the regular school lunch rooms used by all children in the building, the crippled children are served first.

A special study of the school lunch menu for crippled children in the public schools in New York was made in 1915-16. It was found that the children ate too much white bread, white crackers, and macaroni, and too many sweets. A change in the menu was urged, in order to include more food containing the mineral elements which are needed by all children, but especially by those cripples who have bone tuberculosis.

Nourishing food is part of a public school's provision of conditions which foster the physical well-being of children in the cripples' classes.

## FRESH AIR.

Fresh air is another element which is desirable for all children, but of especial importance for children who have been ill and who need to gain as much strength as they can from every source. Any visitor to classrooms for crippled children will note that the air is purer than in most public-school rooms for normal children. This is especially true in schools which are supervised or visited by physicians, because they generally order open windows. The air in a number of classrooms visited seemed as pure as that out of doors, even during cold weather. This result was attributed to open windows rather than to a system of indirect ventilation. During the winter a plentiful supply of steam is furnished in most of the schools where the windows are kept open, and the children are expected to wear their outdoor wraps on the coldest days.

*Outdoor classrooms.*—None of the public day schools for cripples have special rooms or buildings designed for the use of outdoor classes. Several of the residential institutions conduct outdoor classes in special rooms whose arrangement may be mentioned here as of possible suggestive value for public schools. At the Massachusetts Hospital school outdoor classes are held on open platforms adjoining the school building, which forms the only solid wall. On the other three sides there is a tight board railing about 3 feet in height, with pillars at intervals which are connected overhead to the main building by rods, over which an awning can be drawn. The children sit in collapsible boxlike chairs with very high backs extending to the floor behind their feet, and with winged pieces of board at each side to break the wind. Very warm clothing, knit caps, and heavy blankets are provided.

The first specially designed building for outdoor school work for crippled children was completed about 1914 at the Industrial School for Crippled and Deformed Children in Boston. This building, erected at a cost of \$15,000, has a substantial roof and one brick wall; the other three sides have steel pillars covered with concrete, between which there are sliding glass partitions. In order to obtain ventilation without a draft through the room, the roof is built in monitor form with movable windows in two sections. The seats used are similar in general design to those at the Massachusetts Hospital school. There are also half a dozen canvas cots which stand along the sunny southern side of the building and are used during rest periods.

A simpler outdoor school building was built at about the same time at the Sewickley Fresh-Air Home, near Pittsburgh. This building is roofed, but has no walls; glass partitions are used in winter.

These are the only institutions where school classes can be held out of doors throughout the year, but mention should be made of the



excellent arrangement at Sea Breeze Hospital at Coney Island, N. Y., for outdoor teaching during about half the year. From early spring until late in the fall the school classes there are held in a tent with wooden floor and board walls about 3 feet high. The walls are completed above that height by screens and canvas which may be dropped in case of rain.

*Outdoor classes v. open windows.*—The importance of fresh air for crippled children, especially for those with bone tuberculosis, can not be overemphasized. But there are differences of opinion as to the best methods for obtaining the fresh air. At the meeting of the Federation of Associations for Cripples in New York City in April, 1913, there was a discussion of outdoor schoolrooms and schoolrooms where windows are kept open in winter, which brought out sharp differences of opinion as to whether or not cold temperatures have a bad effect upon the children's physical condition. Many of the physicians seemed to agree that cold in itself was never harmful if the children were warmly dressed and had plenty of good food. But many physicians advise a reasonable degree of warmth in schoolrooms, especially those used by crippled children who have bone tuberculosis, and advocate schoolrooms with plenty of window space rather than outdoor rooms where little or no heat is provided. Better progress is usually made educationally when the children are warm enough to avoid the need of heavy wraps and are able to use their hands for writing.

It must not be forgotten that the effect upon the children's health can not be foretold from a knowledge of the mere facilities for securing fresh air unless one knows also how those facilities are used. An apparently old-fashioned building may be well ventilated if the individual teachers see to it that windows are lowered from the top and raised from the bottom in sufficient measure to obtain a good supply of fresh air. On the other hand, a room with the most approved movable walls will not have good air if these be not removed during the school sessions. The Crippled Children's East Side Free School of New York is noteworthy among day schools because its windows are actually kept open throughout the year. The fresh air and the nourishing food which are desirable for all children have been discussed here because they are specially needed by crippled children. These children need also much special attention for their health which is not necessary for other children.

#### SURGICAL AND MEDICAL SUPERVISION.

Most of the crippled children attending public school classes for cripples are or should be under the supervision of an orthopedic surgeon; they should report frequently at the hospital dispensary, where their surgeon can examine them. The relation of the school

to the surgical and medical treatment of the crippled children varies widely in the different cities.

At one extreme, the Crippled Children's East Side Free School in New York, at the expense of a private organization, offers to the children taught by public-school teachers in that building practically all phases of surgical and medical care for their orthopedic difficulties except operations requiring an anesthetic. A visiting orthopedic surgeon holds weekly clinics at the school building, where an assistant surgeon and a trained nurse assist him in the adjustment of braces, application of plaster dressings, and other treatments. Under the supervision of a staff of nurse maids, all the children have baths at the school twice each week. There were 9,703 baths recorded for one school year, and 450 visits were paid to the homes of the children.

*Philadelphia.*—At the other extreme, the public school classes in Philadelphia have no orthopedic surgeons of their own and no nurses with special orthopedic training. This does not mean that the children in the Philadelphia classes are less well looked after from a medical point of view than those in other public schools. The difference is simply one of organization. Philadelphia is noted for its many fine hospitals, and the schools cooperate with the social service departments in the various hospitals. The school nurse has general supervision of the cripples, as of other children, and a matron is provided in each school where there are cripples to superintend the serving of their lunches and to act as attendant for children who can not go from one room to another without some help.

In all the six cities with public school classes for cripples, the children are either inspected by an orthopedic surgeon at the school or urged to attend the hospital dispensaries. A nurse or matron is sometimes present in the classroom all the time that the children are there; in other schools a trained nurse with special knowledge of orthopedics gives part of her time to work at the school and part of her time to visiting the children in their homes. Special gymnastic exercises adapted to crippled children are given in most of the classes, sometimes by the class teachers and sometimes by special teachers of gymnastics. There are so many differences between the detailed methods used in different cities that we shall state here briefly the system of medical supervision in each city.

*New York.*—The City of New York has had since 1907 a special supervising teacher assigned to the classes for cripples by the director of physical training for the public schools of the city. Under her supervision the grade teachers have learned to watch carefully the health of their pupils. The physical activities of every child in the special classes for cripples are limited carefully in accordance with the recommendations of special hospital record cards kept at the

school.<sup>1</sup> These cards were originated by the department of physical training of the public schools of New York in order that each child's orthopedic surgeon himself might state the disease, treatment, and physical care he desired for the child. The cards show the exact nature of the child's disease or deformity and indicate which physical exercises are regarded by the surgeon as desirable, and just what kinds of exercise the child in question must not undertake. The card index also shows whether or not the child should be allowed to climb stairs. These cards are renewed once each year for all pupils who are under hospital supervision and once each term for all cases of bone tuberculosis. They are also renewed after any long absence from school, after any change in a child's brace or cast, and after any surgical operation. Every effort is made to keep the child's record on these hospital cards up to date.

Except at the Crippled Children's East Side Free School, where, as stated before, orthopedic supervision is provided by a private organization, the New York schools do not attempt surgical or medical measures at the schools. It is the endeavor of the schools to cooperate as intelligently as possible with the large orthopedic hospitals in the city whose dispensaries provide adequate supervision for all crippled children. Visiting nurses from these hospitals are largely responsible for seeing to it that the children actually come to the dispensaries when ordered by their surgeons and that directions are carried out by the parents at home. The teachers in the schools have given valuable cooperation in securing the interest of the children and their parents in the child's treatment at the hospital. The Association for the Aid of Crippled Children, a private society, has for many years initiated movements in behalf of crippled children in New York, and has aided great numbers of individuals.

The New York teachers have not only cooperated with the surgeons in charge of children who were already under treatment when they entered the public schools, but they have also persuaded the parents of many children not under treatment to take them to orthopedic dispensaries. The report of the New York schools for 1915-16 states (p. 114) that in some classes for cripples only 10 to 20 per cent of the children were under treatment when the classes were organized. In the same classes there are now 90 to 95 per cent of the children under orthopedic treatment regularly at various clinics. When one class for cripples was organized in Brooklyn, only 15 per cent of the children were receiving medical attention. The superintendent reports (1914-15) that every child in the class is under medical supervision. This cooperation on the part of the teachers should receive special commendation when we remember that it has meant

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<sup>1</sup> See appendix, p. 49.

frequent visits on their part to the homes of the children and sometimes to the hospitals in order to arrange for the child's visits to the dispensary.

Within the last two years New York has undertaken the segregation of crippled children with bone tuberculosis into separate classes in all of the school buildings where there are several classes for cripples. Such classes have been organized thus far in six different public schools. These classes are located in large rooms with southern exposure and open window ventilation, with a temperature in winter kept between 50 and 60 degrees. In addition to hot lunches at noon, the children have special feeding, both in the morning and just before starting for their homes in the busses at the close of the school day. The formation of these classes has been followed by very beneficial results. A teacher in one of the classes kept careful records of the children's physical improvement. One month after the formation of the class every child except one had gained in weight. At the end of seven months all had gained in weight except two children who needed hospital care.

Children are not admitted to the special classes for cripples in New York unless they can walk well enough to look after themselves. It is recognized that there are in a large city like New York many crippled children living at home who are not able to walk but who are mentally bright and would profit by instruction. The superintendent's report for 1915-16 recommends the appointment of special visiting teachers who will be assigned to the instruction of crippled children in their own homes. While awaiting the city's action, the Association of Public School Teachers for Cripples in New York is trying to meet the need by providing volunteer teachers and by appealing for contributions which will enable one or two teachers to give their entire time to the work.

*Chicago.*—The schools for cripples in Chicago have always emphasized strongly the physical care of the children. This is especially true of the larger of the two schools, the Spalding School. The principal of this school states in her report for 1915-16:

The policy of the school is to take in all crippled children who apply, even though the deformity may be very slight, so that advice and assistance may be given parents in obtaining proper treatment. The first aim of the school is to improve the physical condition of the children. The actual school work gives place always to this.

The teachers in the school are required by the board of education to take a special course of study concerning the diseases, treatment, and care of crippled children, and a course in industrial work suited to cripples. They are able to cooperate intelligently with the special teachers who give curative gymnastics to the children.

For many years the children attended daily clinics at the adjoining Home for Destitute Crippled Children, an orthopedic hospital.

An important change has been made during the past year. The entire care of the physical condition of the children has been taken over by the new Municipal Tuberculosis Sanitarium of Chicago, which has enlarged its field in order to care for all the crippled children whether or not the cause of their condition is bone tuberculosis.

The sanitarium furnishes to the school a nurse and medical supplies, arranges for operations and treatment, and takes the children to clinics. Complete files are kept, in which there is a social and physical history of each child. At the Spalding School itself, the children have thorough physical examinations frequently, daily dressing of sinuses, massage and curative gymnastics, and baths for medical purposes. The board of education has recently installed dental equipment at a cost of \$500 and the board of health gives the services of a dentist. An oculist from the board of health also visits the school.

*Cleveland.*—The children who attend the school for cripples in Cleveland were very carefully supervised until a year and a half ago by a visiting nurse with special orthopedic training who was furnished jointly by Lakeside Hospital and Rainbow Cottage, a country convalescent children's hospital. At present the school children are examined only by the regular school nurse, but the former system had some merits so striking that we mention it here, although it is not now in force. The orthopedic nurse represented three links in a chain which offered all kinds of service for crippled children except asylum care. The employment by the three organizations, the hospital, the convalescent hospital, and the public school, of the same nurse or nurses had the very great advantage of permitting the nurse to follow individual children through every period of their care. She usually met a child first at the hospital dispensary. She visited his home and urged the mother to follow out the doctor's orders and to revisit the dispensary at the time set by the doctor. Later, she watched the child's progress at hospital or convalescent hospital. After he was able to leave the institution she visited him at home and at school. She renewed dressings and adjusted braces at the school itself and kept so closely in touch with the child's condition that she was always ready to suggest further hospital treatment if that seemed necessary.

A teacher of physical culture, employed by the board of education, comes to the school three times a week. She gives massage to the paralysis cases and teaches the waitresses to assist her in this work; she also superintends special gymnastic exercises which are conducted by the teachers on days when she is not there.

*Detroit.*—In Detroit an orthopedic surgeon, appointed by the board of health, examines all children applying for admission to the classes for cripples, and visits the school at intervals to examine the

pupils and perform small operations. The special school nurse is on duty for five hours every school day; she gives massage and electric treatments. The Detroit Association for the Aid of Sick and Crippled Children supplies crutches and braces to all pupils in need of such help.

*Baltimore.*—The children in special classes for cripples held in public school buildings in Baltimore attend dispensaries connected with the city's hospitals, and visiting nurses from the hospitals keep constant watch over their physical condition. The teachers and the visiting nurses work together to secure the conditions which are best for the improvement of the children's health.

It will be noted that there is a great difference between the different cities in regard to how much of the physical supervision of the children is done by the school and how much is done by visiting nurses from hospitals or from other outside agencies. In any city where special classes for crippled children are being organized for the first time, the board of education will find it an advantage for the health of the children, as well as a saving financially, to make use of all the agencies which already exist for the care of crippled children. If there is a good hospital with an out-patient department and visiting nurses, the school will probably have no need of a specially trained orthopedic nurse. On the other hand, if the city has no hospital with an orthopedic department, a nurse who is a graduate of a training school connected with an orthopedic hospital would be of the highest service if she were engaged by the board of education to look after the children at the school, under the direction of their doctors, and to visit their homes. Where children who are almost helpless are admitted to the public schools, a matron or attendant is necessary. If such children are not admitted, they must stay at home and a visiting teacher is a God-send in the midst of their monotonous lives.

#### HOURS OF SESSIONS.

The hours of the sessions are shorter for the cripples' classes than for other school classes in practically all the public schools. In Detroit the hours are identical with those in other public-school classes in the spring and fall, but from November until April the classes for cripples begin an hour later in the morning, so that the children need not leave their homes so early in cold weather. The sessions are from 9.30 to 3 in Cleveland. In other cities the classes for cripples are in session from 9 until 2 throughout the school year, with an intermission for lunch which is often extended beyond the hour given to children who are not crippled.

*Rest periods.*—There is considerably more variety and elasticity of schedule in special classes for crippled children than in regular public-school classes. The children are permitted to leave their work and lie down for short periods when they are tired, sometimes in a separate

rest room provided for the purpose, sometimes on a couch in the corner of the schoolroom. In some classes, notably the newly organized special classes for children with bone tuberculosis in New York, all children in the class are required to lie down for rest after their noon meal. Individual children whose strength is limited are sometimes required to rest at regular intervals, as ordered by a surgeon, the nurse, or the teacher.

#### MENTAL PROGRESS.

The average observer would expect to find the educational progress of crippled children much slower than that of other children because of the short sessions and liberal rest periods, as well as on account of the weakened vitality of some of the children. It is true that the majority of children in classes for cripples are behind other children of their age, but this is very often due to the fact that they did not enter school until they were considerably past the regular age, rather than because their progress has been slow since they began work in the special classes for cripples. The difficulties under which some of the crippled children labor, especially those who still have active bone tuberculosis, must not be minimized. Yet the average observer will be amazed to find when visiting special classes for cripples how large a proportion of the children are able to do genuinely good work and to move from grade to grade as rapidly as other children. This fact is attributed by the teachers to two causes.

*Classes are small.*—In the first place, each child in a special class for cripples receives considerably more individual attention than it is possible for one child to receive in an ordinary grade classroom in the public schools of a city, because the classes for cripples are very much smaller, often not more than half as large as other classes in the same building. The average number of children in special classes for cripples for the six cities is about 20. In New York City 20 is the maximum number allowed, although that number is slightly exceeded at times when the pressure for admission of two or three more children is very great. Twelve is the minimum number with which a class may be organized in New York. The average number per teacher in Chicago is somewhat under 25. At the Spalding School there are 11 teachers for regular class work with 200 children. The average number in each classroom in the Cleveland school for cripples is about 22. In Detroit the number of pupils per teacher at any one time is not often greater than 23. In Philadelphia from 20 to 25 children are usually enrolled with each teacher, and an average attendance of about 18 per teacher is maintained. In Baltimore the two classes for cripples held in public-school buildings had an average membership for 1915-16 of 15 and 16 children, respectively, and an average attendance for each class of 14. C

for children who are not crippled in all these cities are often very much larger than they should be for the best interests of the children, because the boards of education find it impossible to finance the schools upon the basis of small classes. It is much to the credit of the educational authorities that they have seen the necessity of a smaller number of pupils per teacher in the cripples' classes. Each crippled child can be carefully studied as an individual by the teacher and given special instruction in branches which the child finds most difficult.

It is interesting to note in this connection the number of pupils to each teacher in the schools for cripples in London. The following figures are quoted from an article by Douglas C. McMurtrie, reprinted from the New York Medical Journal, dated January 25, 1913:

*Schools for cripples in London.*

	1905	1907	1908	1909
Number of teachers.....	66	90	93	107
Number of pupils.....	1,547	2,045	2,392	2,544
Average number of pupils to each teacher.....	23.4	22.7	25.7	23.8

*Cripples often earnest students.*—The second reason for the excellent progress made by many crippled children is the character of the children themselves. Many of them are so limited in their interests by the fact that they can not walk well or play running games with other children that they concentrate their attention upon their school work with unusually keen interest. The hours spent in school are often the brightest in their restricted lives. They undertake each task earnestly and work with a thoughtfulness and perseverance which can not fail to bring rapid progress. Many children who have spent considerable time in a hospital or under treatment while at home undertake school work for the first time with a zest which is largely due to an unconscious rejoicing that they are for the first time like other children because they can go to school.

*Wide differences.*—The teacher of crippled children has to deal with a far more complicated situation than the teacher in an ordinary class. Each of her pupils is likely to vary greatly from time to time in energy and capacity, according to his physical health. Some of the children lose time for operations or during special treatments and are irregular in attendance. Furthermore, there is tremendously more variation between the different pupils than between a similar number of ordinary children. Some of the children in a special class for cripples are familiar with public-school routine and have much the same point of view as normal pupils. This is especially true of children who had infantile paralysis at the age of 8 or 10 or later, after several years of attendance at public schools in ordinary classes



when they were themselves entirely healthy and strong. On the other hand, a large number of the crippled children in these special classes have never been able to attend regular schools or to associate freely with other children. This is very often true of those who have bone tuberculosis and of children congenitally deformed or paralyzed when very young. The teacher must, therefore, be able to face the problems of children accustomed to school work and of other children to whom the atmosphere of the schoolroom is an entirely new thing.

It is not intended to suggest that crippled children can be divided accurately into the two groups mentioned. The crippled child may differ greatly or to only a slight extent from the normal sound child of his own age in general strength and in point of view. The gradations are many between, for example, a boy who was a vigorous urchin until he lost a leg in a trolley accident at 12 or 13 and, on the other hand, a child who has been paralyzed from the age of 3 or 4, or one who has been fighting to overcome bone tuberculosis since an early age.

#### DISCIPLINE.

This very great variation in the children's condition and previous experience affects not only their instruction in the subjects taught in school, but their discipline. Some crippled children are unduly petted and looked after at home and must receive their first lessons in independent effort after they come to school. From the teacher and from fellow pupils in the class they learn for the first time that a crippled child who tries to be like other children is happier and more successful than one who is too easily content to occupy a special and peculiar niche in the world. There are other crippled children of the timid, shrinking kind who have been in rare cases abusively treated at home or, more often, have been unduly teased and reminded of their deformities by thoughtless children on the street and elsewhere. The teacher's sympathy and inspiration will go far toward encouraging them and inducing pride in some line of achievement in which they may learn to excel and thus forget the handicaps for which they have been ridiculed.

#### CLASSES FOR MENTALLY DEFICIENT CRIPPLES.

A very special problem is presented by children who are both physically crippled and in some measure deficient mentally. Pronounced cases should, of course, be sent to institutions, but most of the cities which have public-school classes for cripples find some of the children retarded mentally.

*New York.*—In New York City an effort is being made to segregate such children into special classes of their own. During the year 1915-16 there were three such classes. The special supervisor of cripples' classes recommends that these segregated classes with dor

handicapped children be retained in the public schools, but that those children who prove themselves unable to benefit at all by the educational facilities provided should after reasonable trial be sent to an institution under the supervision of the department of education.

*Philadelphia.*—In two of the schools which have classes for cripples in Philadelphia the children who are dull or subnormal are put into one class, usually with some bright children, since there are hardly enough retarded cases to constitute an entire class. It is worth noting that at the McCall School the teacher of the class which includes subnormal pupils has been specially trained for this purpose by a course at the institution in Vineland, N. J., and by long experience in charge of a private home school for feeble-minded children.

#### ORGANIZATION OF CLASSES.

There is an unexpected resemblance to the old-fashioned country district school on the part of many of the classes for crippled children, although these classes are all located in large cities. This is due to the fact that, wherever there is only one special class for cripples in a building, it must offer work in any or all of the eight grammar grades which the children admitted are ready to enter. In some of the classes visited the work was not carried beyond the sixth grade, because none of the children were able to do higher work.

Wherever there are several classrooms for crippled children in one building the work can be graded more accurately and each teacher given certain definite grades. This is true in both of the schools for cripples in Chicago, the school in Cleveland, and that in Detroit. In each of the three public schools in Philadelphia which have classes for cripples there are two or three classrooms set aside for them, and the grades are divided between these classrooms. In Baltimore there is but a single class in each school, and the work of many grades must be offered in one room. In New York City there are seven schools which have only one class for cripples in the building, together with many regular classes for children who are not crippled. Two, three, four, and five classes for cripples each occur in two schools. Finally, one school, the Crippled Children's East Side Free School, has 11 classes for cripples, the largest number taught in one building in any school in the United States. In this school each teacher has the work of a single grade, as she would have in any city class for children not crippled. This is true also of the Spalding School in Chicago, and of the private day school in Boston, the Industrial School for Crippled and Deformed Children.

Where it is possible to include at least two or three classes for cripples in a single building the work of each teacher is very much easier, and the children make more rapid progress in their studies. It is, of course, only in a very large city, like New York, Chicago, or

Boston, that a school for cripples will have pupils enough to require a teacher for each grade. But in smaller cities when classes for cripples are organized it is well to put at least two classes in one building if possible and use motor busses in order to bring this larger number of children from greater distances.

*Flexibility in grading.*—The special classes for cripples, whether there are several grades in a given school building or only one, usually show somewhat greater flexibility in the grading of the pupils and in their promotion than do other public school classes. The most extreme case of this flexible grading is found not in any public school, but in the Massachusetts Hospital school for cripples at Canton, Mass. The report of this school for 1912 states, on page 16: "Promotions are made freely from group to group at any time during the year when a pupil shows evidence of ability to do the work of the class next above." It is possible that this end may be attained in good measure in the public schools for cripples in future years.

#### EDUCATIONAL AIMS.

Some of the problems which must be solved in the teaching of a class of cripples are produced by the fact that both curable and incurable crippled children are usually included in the same class. A large proportion of crippled children can be cured, or so far helped that in the course of time they will be able to reenter regular classes in the public schools. These temporarily crippled children find in the special classes much needed opportunity to keep up with their school work in so far as their physical condition permits. Some of them are able to return to the regular public school classes after only a year in a special class for cripples. It is important that the curriculum in a class including such children should resemble as closely as possible that in regular public school classes in order that the temporarily crippled children may return to regular classes with as little break as possible in their school career. As a matter of fact, in all the classes for cripples there is a remarkable resemblance between the subjects studied and methods of instruction used and those in ordinary public school classes. The assistant superintendent of schools in Cleveland summarizes the course of instruction as follows:

The work in this school is about the same as we are doing in other schools: Reading spelling, writing, arithmetic, geography, history, sewing, drawing, molding simple objects, kindergarten work, music, and gymnastics. Our aim is to make these children feel that they are doing what children ordinarily do, and living the natural life.

This statement could be very nearly duplicated as true of the public school classes for cripples in the other cities.

It is usually the ambition of a teacher of crippled children to be able to say that the children who leave her class after the

reenter regular public-school classes in the grades which would have been theirs if they had remained perfectly well. This ambition is very commonly realized. It is a pleasure to record the success of the efficient and painstaking efforts made by teachers of crippled children in all the special classes to fit their curable pupils for return to regular classes.

But there are also considerable numbers of crippled children whose cure is impossible, or possible only after many years of treatment. They may be entirely free from disease, but some degree of deformity is permanent. In many schools these children represent a large majority of the total enrollment. They need a complete system of education in special classes, because they will never be able to attend regular schools which will develop such powers as they possess.

*No high schools for cripples.*—It is unfortunate that there are as yet no special high schools for cripples in the United States and no high-school buildings with any classrooms offering the accommodations needed by crippled children. The only hopeful exception is the Spalding School in Chicago, a graded school for cripples, where a class was organized in September, 1916, with nine cripples who were graduates of the eighth grade, for the purpose of instructing them in some high-school branches. Some crippled children do go to high school if their physical condition is sufficiently improved, but a very high proportion of the crippled children attending special classes are unable to go beyond the grammar grades because the high schools offer no free transportation by stage and the buildings, often without elevators, have classrooms on several floors which are not equipped with special seats or desks. It is to be hoped that in the course of time high schools for cripples may be established in the largest cities, or, at least, that some high-school branches may be taught in every city, as in Chicago, in connection with one or more of the schools having grade classes for cripples.

*Training for intellectual pursuits.*—The fact that permanently crippled children have not usually been able to look forward to higher education is particularly unfortunate because their physical defects usually make them poor competitors in manual pursuits with young people of sound physique after they leave school. If every crippled child with good mentality could be trained for a career which made small demand upon his physical capacity but required considerable mental training, we should be making the greatest possible use of our handicapped citizens. People interested in the career of a particular crippled child should give him a high degree of training for some so-called "intellectual" pursuit, if he has the ability and if the money to meet the cost of such training can be secured.

*Manual occupations.*—The majority of crippled children, like the majority of other children in great cities, can not look forward to

higher education. The greatest service which it is possible for the schools to give these children is the provision of some general education plus trade training for a manual occupation which they can pursue with the least possible risk of physical harm. This fact has been understood sufficiently well wherever there are special classes for cripples and has resulted in the introduction into the school work for cripples of an unusual amount of handwork. The children are specially fond of this work, and those who are unable to enjoy active games, because their legs are crippled, often develop remarkable skill in all kinds of hand processes. The younger crippled children do a good deal of cutting and weaving, which calls for training of the hand and eye. In addition to the usual hand processes with paper and raffia, creditable work has been done in many classes by some of the older children in knitting, crocheting, making of simple cotton garments, and rug making.

*Detroit.*—In Detroit several of the older boys have gone for one day each week to another public-school building having special courses in manual training. A class in millinery was taught at the cripples' school in 1915-16.

*Philadelphia.*—At the Meade School, in Philadelphia, eight children are doing good work in rug weaving on the one loom which has thus far been provided. Two looms could probably be kept busy. The older children in this school have also made creditable hammocks.

*Cleveland.*—The girls receive thorough training in sewing. The older girls are able to make dresses for themselves. Other handicrafts taught are basketry, weaving, and the making of simple toys and pottery.

*Baltimore.*—The handwork in classes for cripples in Baltimore includes basketry and simple rug weaving. At the Kernan Hospital school near Baltimore, a public-school teacher has charge of the grade instruction, while a special teacher of handwork and industrial handicraft is employed by the institution. Good work is done in sewing, lace making, rug weaving, basketry, chair caning, burnt woodwork, stenography and typewriting. At the Children's Hospital School in Baltimore, a teacher from the Playground Association, half of whose salary is assumed by the hospital school, teaches advanced kindergarten work, basketry, and chair caning.

*New York.*—In New York City there is great variation between the different schools in regard to the amount of handwork and simple industrial processes taught. The school superintendents all report the children's eagerness to make things with their hands. The principals of the schools where the least provision is made for such teaching urge the undertaking of more handwork instruction.<sup>1</sup> At Public School 15, Brooklyn, the children have made raffia baskets, done

<sup>1</sup> See Report of Superintendent of Schools of New York for 1915-16, pp. 73, 80, 81.

embroidery and plain sewing, including the making of some complete garments, and woven small rugs.

At a meeting of the Association of Public School Teachers of Crippled Children in New York, on March 10, 1916, a committee was appointed to draw up a course of study with special reference to industrial and vocational subjects for crippled children. This committee reported in favor of a course of study which would offer needlework, including plain and fancy sewing, dressmaking, embroidery, knitting and crocheting, and novelty work. They also advised the introduction of a course in drawing and design to include the following subjects: Costume and textile design, commercial design, lettering and poster design, interior decorating, design in its relation to domestic art.

*Chicago.*—A large amount of handwork has always been done at the Spalding School in Chicago, and since January 1, 1916, special attention has been given to industrial work. At that time new equipment was added and new courses offered. The children in the fourth and fifth grades have a total of 1 hour and 50 minutes of work in the shop each week. Those in the sixth, seventh, and eighth grades have 75 minutes daily in industrial classes. The younger children have made toys and doll furniture after completing the regular kindergarten processes of cutting paper, weaving, etc. Older children have manual training work, sewing, crocheting, lace making, basketry, cooking, printing, block printing, cobbling, weaving, special training in designing and free hand lettering, making of artificial flowers, typewriting, and bookkeeping.

The school has excellent equipment for teaching printing, including one very large press. This work is taught to both boys and girls, beginning with the sixth grade. The most successful results have been attained with Christmas cards designed by the children, printed in the printing room, and then returned to the art classes for decoration. It is believed that some of the children will be able to earn their living later by this work. A graduate of the school, a young man who has no use of his lower limbs, is running a commercial printing establishment with two large motor presses and other modern equipment, all purchased through his own efforts. The only instruction he ever received was at the Spalding School.

A \$50 outfit for cobbling, sufficient to keep six boys at work, was presented to the school in June, 1915. Since then, the children's shoes have been kept in good repair by the boys' work. Equipment has recently been purchased which is to be loaned to any boys who wish to make the experiment of starting cobbling shops in their own neighborhoods. A graduate of the school in June, 1917, is earning \$10 a week in the fine shoe-repairing department of one of the largest stores in Chicago. It is believed that a maximum of \$30 a week can

be earned in this trade. Motor-driven equipment costing about \$150 has recently been ordered for the cobbling department. It is believed that this work offers an especially good opportunity for boys who have lost the use of both lower limbs but who are able to be about on crutches.

The school has 6 large foot looms and 10 hand looms, and good work in weaving has been done since February, 1916. Several of the looms were loaned during the summer to children who are confined to wheel chairs. A gift of \$100 was made to the school in June, 1916, for the express purpose of buying looms or other equipment to be given or loaned to such children. The teacher of weaving has had special training for this work. The teachers believe that weaving is a very good occupation for one-armed pupils.

A graduate who left the school in February, 1915, has an apprenticeship in engraving with one of the best engraving firms in Chicago. Two other graduates have office positions, and one is making artificial flowers.

The highest development of handwork and industrial training is found in the two large private day schools for cripples, the Industrial School for Crippled and Deformed Children in Boston, and the Crippled Children's East Side Free School in New York. Their industrial classes are mentioned in detail in Part II of this Bulletin, pp. 45, 46. Any board of education which contemplates the establishment of industrial trade classes for cripples should visit these schools which have been pioneers in this direction.

*Trade training.*—The problem of trade training is bound to be the outstanding feature of future discussions concerning the education of crippled children, both because the establishment of industrial classes is the natural outgrowth of the excellent graded class work which has already been established in six large cities, and because the entrance of America into the great war has brought before us the problem of the reeducation and trade training of crippled soldiers. In choosing occupations for which soldiers crippled in different ways can be trained and in selecting methods of instruction, the agencies for the reeducation of crippled soldiers in European countries have profited greatly by the experience of trade classes for crippled children, many of which were organized a great many years before the war. In some cases crippled soldiers have been taught together with the crippled children in their trade classes. The public sympathy with the efforts of crippled soldiers to fit themselves for self-support will quicken the interest in the problems of all cripples. It is probable that there will be a rapid development within the next few years of public-school classes for cripples and of special industrial classes for their occupational training.

## PROVISION FOR CRIPPLES IN CERTAIN CITIES.<sup>1</sup>

### NEW YORK.

*Statistics.*—The City of New York has 46 special classes for physically crippled children, located in 16 different public-school buildings in various parts of Manhattan, The Bronx, and Brooklyn. In seven schools there is but one class for cripples in the building, together with many regular classes for children who are not crippled. Two, three, four, and five classes for cripples each occur in two schools. Finally, one school has 11 classes for cripples, the largest number taught in one building in any school in the United States. This school, unlike any of the others in New York, occupies a building especially designed for the use of crippled children and given over to them exclusively.<sup>2</sup> These 46 classes have a total register of 918 crippled children and an average attendance of 693. The smallest number with which a class may be organized is 12, and 20 is the intended maximum for one class, though that number has been exceeded in several cases because of the great number of applicants.

The principal of a school whose one class for cripples had 32 enrolled in 1914-15 stated his objections thus:<sup>3</sup> "At present, with 32 on register and but 20 sittings, the pupils in excess are compelled to use ordinary chairs and tables. The result is that the room is overcrowded with furniture, and the pupils, who are compelled to use the chairs, become overtired." The fact that the average attendance for this class of 32 is 24 must in some measure lessen the difficulties.

*Buildings.*—The 16 public-school buildings in which the classes for cripples are located include several of the newest and finest schools in New York. Some of the other schools with cripples' classes are older and less perfectly adapted for the use of handicapped children. In old and new buildings alike the crippled children are always given the best rooms in the school. Special desks and seats are used in great numbers, and other needed equipment has been liberally provided.

<sup>1</sup> The following summaries have been prepared for convenient reference. They include data already given in this bulletin, together with some other points of special interest in connection with the classes in each particular city.

<sup>2</sup> This building does not belong to the city but to a private organization, the Crippled Children's East Side Free School, which formerly financed the school entirely and which still maintains industrial classes and work rooms in the building.

<sup>3</sup> Rep. of Supt. of Schools, New York, 1914-15, p. 107.



*Transportation.*—Provision is made for the transportation of crippled children between their homes and the schoolhouse by 42 stages, of which 40 are furnished by the city and two by a private society, the Association for the Aid of Crippled Children. A driver and an attendant, able to lift the more helpless children, accompany each stage. In stages owned by the city the attendants are men. The stages provided by the Association for the Aid of Crippled Children are accompanied by women nurses as attendants. The special teacher in charge of physically handicapped children urges the superiority of women attendants.<sup>1</sup> She advocates the use of these stages in taking crippled children from their homes to hospitals for dispensary treatment.

*Lunches.*—Hot lunches are sold to the children for very small sums. In Public School 107, for example, soup was served in 1912-13 for 3 cents, and sandwiches, cookies, cups of cocoa, etc., for 1 cent each. Children are required to take the soup before they are allowed to have sweets. In some schools, the children in the special classes for cripples are served first.

*Physical supervision.*—A special teacher is assigned to the classes for cripples by the director of physical training in the New York public schools. Under her supervision the grade teachers have learned to watch carefully the health of the pupils. The course of study and physical activities of each child are limited in accordance with the recommendations of hospital record cards, printed in full in the Appendix, pages 49-51. These cards show which exercises are regarded by the child's surgeon as desirable and what kinds of exercises the child in question must not undertake. The card index also shows whether or not the child should be allowed to climb the stairs. These cards are renewed once each year for all pupils under hospital supervision and once each term for all cases with tuberculous joints. They are also renewed after any long absence from school, after any change in a child's brace or cast, and after any surgical operation. Every effort is made to keep the child's record on these hospital cards up to date.

*Classes for different types.*—Particularly good work has been done in the physical supervision of the children within the last two years, since the segregation of three types of crippled children into different classes in all of the schools having several classes for cripples. There are separate classes for children with tuberculous joints in six different public schools. According to the report for 1915-16, the formation of these classes has been followed by very beneficial results. Such classes are located in large rooms with southern exposure and open-window ventilation with a temperature in winter kept between 50° and 60°. In addition to hot lunches at no

<sup>1</sup> Rept. of Supt. of Schools, New York, 1914-15, p. 121.

these children have special feeding both in the morning and just before starting for home at the close of the school day. Cots and blankets are provided for use during a rest period after the midday meal.

Still more recently an effort has been made in the New York schools to segregate children who are both mentally deficient and physically crippled. During the year 1915-16 there were three such classes. The special supervisor of cripples' classes recommends that these segregated classes for doubly handicapped children be retained in the public schools, but that those children who prove themselves unable to benefit at all by the educational facilities provided should after reasonable trial be sent to an institution under the supervision of the department of education.

The remaining classes in the New York schools where segregation into different types of classes has been begun are those for nontuberculous crippled children who are mentally sound. These represent the majority of the crippled children. Most of them through the skillful orthopedic treatment of surgeons at the hospitals are eventually fit to be transferred to regular classes in elementary schools and to attend high schools later.

*Visiting teachers.*—There are some crippled children living at home who are not able to attend school even with the special facilities provided for cripples' classes. The New York report for 1915-16 recommends the appointment of special visiting teachers for crippled children who will be assigned to the instruction of children in their own homes. Funds are being solicited by the Association of Public School Teachers of New York to pay one or two visiting teachers at once, before the board of education is ready to act.

It is only a city like New York, with a very large population, which will find necessary large numbers of classes for crippled children. It is, of course, in such a city that the work can be carried on with the greatest degree of segregation of the children into classes of different types. In order to secure the benefits which undoubtedly come from the separation of different types of cripples into classes of their own, the cripples' classes are so arranged that there are, if possible, at least two special classes for cripples in a given building. The presence of two or three classes in the same building usually makes possible also some separation of the grades, so that one teacher does not have to carry six or eight grades, as she does in every special class for cripples if it is the only one in the building.

*Sessions.*—Sessions are one hour shorter in classes for crippled children than in other public-school classes in New York City. The classes for cripples begin at 9 o'clock and end at 2 o'clock instead of 3. In one school where there was much congestion in the crippled children's classes, part-time classes were tried as an experiment.

Half the children came from 8.30 to 12.30, the others from 12.30 to 4.30, using the same stage. But the plan did not work. The children in the first group had to eat breakfast at home too early; the children in the second group had to eat lunch at home too early. Also, the special seats when adjusted to fit the children in the first group did not fit the children in the second group. Furthermore, the children did not cover so much ground in their studies by a wide margin, although the new system offered apparently a school day but one hour shorter than the usual period from 9 to 2. The children were actually able to accomplish much less because of the liberal rest periods needed by many of them.

*Curriculum.*—The curriculum is as closely similar as possible to that in classes for children who are not crippled. The classes are not graded quite so exactly; the children are given more individual attention and more time is spent on handwork.

*Handwork.*—There is great variation between the classes for cripples in different schools in regard to the amount of time given to handwork and simple industrial processes. Most of the classes offer all the usual kindergarten handwork and more advanced work with cloth, raffia, and yarn. It is noteworthy that the superintendents of the schools where least provision is made for such teaching urge the undertaking of more handwork.<sup>1</sup>

*No public high school nor trade school.*—There is no high school with special facilities for cripples, and no public trade school. Trade classes for girls in needlework of many kinds and for boys in box making are maintained privately at the Crippled Children's East Side Free School; also other trade classes at two other private schools, the Rhinelander School, distinguished for its classes in jewelry, and the William H. Davis Free School, notable for hand-made articles of leather and wood, as well as needlework.

### CHICAGO.

The city of Chicago maintains special classes for crippled children in two sections of the city, with an average daily membership for 1915-16 of 304.1 and an average daily attendance of 280.9.

#### THE SPALDING SCHOOL.

*Building.*—The Spalding School, at 1623 Park Avenue, on the west side of Chicago, is the only permanent school building in the United States built and maintained entirely by a city board of education for the exclusive use of crippled children.<sup>2</sup> It is a one-story and attic building only slightly elevated above the street. On the ground

<sup>1</sup> See Rept. of Supt. of Schools, New York, 1915-16, pp. 78, 80, 81.

<sup>2</sup> The school building for cripples in Cleveland serves its purpose very well, but is of a much less permanent character, since it is built entirely of wood.

floor there are five classrooms and an assembly hall, a kitchen, a dining room, and a nurse's room, bathroom, and rest room. The attic, which is reached by an incline from the first floor, contains the industrial classrooms. The children in the attic rooms are protected against accident in case of fire by a specially designed fire escape recently completed. An incline 100 feet long leads from each end of the attic directly to the ground. Twice as many children are now taught in this building as it was designed to accommodate, because of the rotary system which changes the children about from class work to industrial work, etc. An addition to the building has been authorized by the board of education to cost \$82,000. It will contain four additional classrooms, three large industrial rooms, an assembly hall with a stage, nurse's room, dental room, masseur's room, rest room, receiving room, toilets, bathroom, and a large sun room with glass roof.

The equipment of this school is of the most modern sort obtainable. Special seats and desks are provided, also a liberal number of wheel chairs. Cork matting is laid on the hall floors.

*Pupils and teachers.*—The enrollment in this school for the year 1915-16 was 225, of whom 200 were taught in the building itself, and 25 were patients confined to their beds in the nearby Home for Destitute Crippled Children. One teacher is assigned to give bedside instruction to these children. In 1916-17, 200 were taught in the Spalding School, 25 at the hospital, and 85 in temporary quarters in the wing of a neighboring school building. In 1916-17, 11 teachers were employed for regular class work, 2 teachers for industrial work, and 2 for corrective gymnastics.

*Transportation.*—The entire expense is borne by the city of Chicago. Since January, 1917, each of the teachers has been paid \$200 more than the amount paid teachers for similar work in other public schools. The children are taken to and from school in comfortably heated and ventilated motor busses, which replaced the old horse busses in 1914. Each bus has in addition to the driver a man or woman attendant. These motor busses have made it possible to enlarge the school district, and some of the children come from long distances. Hot lunches are furnished at noon and milk to drink upon the arrival of the children in the morning.

*Physical supervision.*—The schools for cripples in Chicago have always emphasized strongly the physical care of the children. This is especially true of the larger of the two schools, the Spalding School. The principal of this school states in her report for 1915-16:

The policy of the school is to take in all crippled children who apply, even though the deformity may be very slight, so that advice and assistance may be given parents in obtaining proper treatment. The first aim of the school is to improve the physical condition of the children. The actual school work gives place always to this.

The teachers in the school are required by the board of education to take a special course of study concerning the diseases, treatment, and care of crippled children, and a course in industrial work suited to cripples. They are able to cooperate intelligently with the special teachers who give curative gymnastics to the children.

The entire care of the physical condition of the children has been taken over by the new Municipal Tuberculosis Sanitarium of Chicago, which has enlarged its field in order to care for all the crippled children whether or not the cause of their condition is bone tuberculosis. The sanitarium furnishes to the school a nurse and medical supplies, arranges for operations and treatment, and takes the children to clinics. Complete files are kept in which there is a social and physical history of each child. At the Spalding School itself, the children have thorough physical examinations frequently, daily dressing of sinuses, massage, and curative gymnastics, and baths for medical purposes. The board of education has recently installed dental equipment at a cost of \$500, and the board of health gives the services of a dentist. An oculist from the board of health also visits the school.

*Sessions.*—This school is in session from 9 until 2 during the school year. A morning session has sometimes been held in summer. Every child from this school has the opportunity to spend six weeks in a private summer camp in Wisconsin.

*Curriculum.*—The regular course of study outlined for the eight grades of the elementary schools in Chicago is used as a basis for the curriculum. The board of education authorized the opening of a high-school department for crippled children in connection with the Spalding School. The first class of cripples doing work in high-school subjects was opened in September, 1916, with nine pupils.

*Handwork and industrial classes.*—A large amount of handwork has always been done at the Spalding School in Chicago, and since January 1, 1916, special attention has been given to industrial work. At that time new equipment was added and new courses offered. The children in the fourth and fifth grades have a total of 1 hour and 50 minutes of work in the shop each week. Those in the sixth, seventh, and eighth grades have 75 minutes daily in industrial classes. The younger children have made toys and doll furniture after completing the regular kindergarten processes of cutting paper, weaving, etc. Older children have manual training work, sewing, crocheting, lace making, basketry, cooking, printing, block printing, cobbling, weaving, special training in designing and free-hand lettering, making of artificial flowers, typewriting, and bookkeeping. For a detailed account of work in different hand processes, see pages 31-33 of this bulletin.

## THE FALLON SCHOOL.

The large Fallon School, on the south side of Chicago, has many classrooms for normal children and has also reserved on the first floor for the exclusive use of crippled children four classrooms and a play room, a kitchen, dining room, and toilet rooms. Four grade teachers give their entire time to the crippled children. In 1915-16, the enrollment was 89, and the average attendance was about 84. In November, 1917, there were 94 children registered, and the average attendance was 90.

All expenses in these classes are met by the city. The teachers receive a bonus of \$200. Motor busses are used to transport the children. Hot lunches are provided at noon, and milk or cocoa to drink in the morning. Desks and seats adjustable as to height are provided.

*Physical supervision.*—A nurse from the Municipal Tuberculosis Sanitarium is in constant daily attendance, dressing sinuses, taking temperatures, etc. A doctor from the same institution comes daily to inspect the children. A special teacher of corrective gymnastics is employed, who gives daily exercises with very beneficial results. A masseur gives massage two days each week to children whose parents grant permission for such treatment. One of the teachers in this school has used songs and rhythmic motion, with music as an accompaniment, in order to make the children more spontaneous in their activity, and has secured excellent results in stretching and strengthening muscles by means of dancing.

*Organization.*—The school sessions last from 9 until 2 during the winter, and summer sessions have been held from 9 until 12 in the morning. Many of the children go to a private camp in summer. The curriculum is similar to that in other public-school classes, except for the increased emphasis upon handwork. All the ordinary processes with paper, raffia, reed, and cloth are taught.

## PHILADELPHIA.

The city of Philadelphia has set apart seven special rooms for crippled children in three of the large public schools in different parts of the city. Seven teachers are employed for these classes. Another teacher, paid by the city, is assigned for work with crippled children at the Orthopedic Hospital. The average number of children enrolled for the year 1915-16 was 140 and the average attendance was 126.<sup>1</sup> From 20 to 25 children are usually enrolled with each teacher, and an average attendance of about 18 per teacher is maintained.

Two of the three school buildings in which special classes for cripples are located are less well adapted for this work than any newer school

<sup>1</sup> For the school year 1916-17, there were eight classes for crippled children, with an average enrollment of 162 and an average attendance of 142.

buildings would be. The three classrooms at one of the schools and two classrooms at the other have each but two windows in one direction. At the Binney annex of the McCall School, where there are three classes, the rooms are so dark that the gas lights are often kept burning at midday. The fundamental needs of fresh air and sunshine can not be met in such rooms. The equipment provided is in every other respect adequate. There are special adjustable seats in all the schoolrooms, and wheel chairs in which the children sometimes rest. Kitchens, dining rooms, and separate toilet rooms for the cripples are provided. All the classrooms for cripples are on the first floor and have no thresholds.

*Transportation.*—The children are transported to and from school in horse-drawn busses contracted for by the city. They are heated in cold weather. Each bus starts its trip at 7.30 and reaches the school between 8.45 and 9 o'clock. Each bus has an attendant, usually a man, in addition to the driver. One of the busses running to the Meade School has a woman attendant. When the children are too heavy for her, the driver carries them into the school.

*Lunches.*—At each of the three schools a matron is employed by the city to assist in looking after the physical needs of the children, and especially to serve their noonday meal and midmorning lunch. The children who can afford it are allowed to make some payment for their meals, but most of the cost is met by subscriptions from philanthropic agencies and interested individuals. Just before Thanksgiving each year contributions of cereals and other food supplies for the benefit of these cripples' classes are taken up in the various schools in each neighborhood where the classes for cripples are located.

*Physical supervision.*—The orthopedic supervision is entirely through the hospitals of Philadelphia. The teachers cooperate with visiting nurses from the hospitals. The school nurse has general supervision of the cripples, as of other children, and a matron is provided in each school where there are cripples, to superintend the serving of their lunches and to act as attendant when needed.

*Curriculum.*—The school work is based upon that of the regular elementary grades, with the addition of a large amount of handwork. The smaller children work with paper, reed, and beads. At the Meade School eight children are doing good work in rug weaving on the one loom which has been thus far provided. Two looms could probably be kept busy. The older children in this school have also made creditable hammocks.

*Segregation.*—At the McCall School, one of the three rooms assigned to cripples is given to children of the first and second grades who are mentally normal. Another room has children from the third grade up who are of good mentality. The third room has c

ren of the lower grades and includes those who are mentally dull or actually defective. The teacher of this class has been specially trained for the instruction of mentally retarded pupils.

At the Meade School, each of the two classrooms for cripples has some beginners, but most of the children in one of the rooms are included in the first three grades.

In the second room some children are doing fifth-grade work. About 8 or 9 of the 45 children in these two classes are somewhat retarded mentally. If the number of classes for cripples should increase at this school, these children would be placed in a separate class as they are at the McCall School.

#### CLEVELAND.

*Building and equipment.*—In Cleveland, classes for crippled children are conducted in a one-story wooden building located in a large yard at the rear of the Wilson School, one of the best public schools in the city. The building set aside for cripples has classrooms, dining room and kitchen, and surgical dressing room. Desks and seats are adjustable as to height; one central pivot supports both a desk and a seat. Small chairs are used in the kindergarten.

*Statistics.*—The number of crippled children enrolled during the year 1915-16 was 127, including 17 in the kindergarten; the average monthly enrollment was 95.7 and the average daily attendance 87.5. There are six teachers, with an average of about 22 pupils per teacher. The school is financed entirely by the board of education. A principal and six other teachers, including a kindergarten, are employed. They do not receive extra pay for teaching crippled children. Hot lunches are furnished without cost to the children.

*Transportation and lunches.*—Horse-drawn busses are supplied by the city for the transportation of the children. Each bus has a driver and a guard or attendant, who assists the children who need help.

*Physical supervision.*—The school nurse inspects the children and visits their homes. For actual orthopedic care most of the children go to the dispensary at Lakeside Hospital. An orthopedic visiting nurse, employed by both this hospital and Rainbow Cottage, a country convalescent hospital, visits the homes of many pupils at this school, although she does not come to the school itself.

*Sessions and curriculum.*—Sessions are from 9.30 to 3. The work in this school, to quote from a letter from the assistant superintendent of schools of Cleveland—

is about the same as we are doing in other schools: Reading, spelling, writing, arithmetic, geography, history, sewing, drawing, molding simple objects, kindergarten work, music, and gymnastics. Our aim is to make these children feel that they are doing what children ordinarily do, and living the natural life.



The *handwork* includes sewing instruction to a point where the girls are able to make dresses for themselves, basketry, some weaving, and the making of simple toys and pottery.

A *census* of all cripples in Cleveland has been made recently with a view to discovering in what occupations they can best earn their living.

#### DETROIT.

The city of Detroit employs two teachers for special classes for crippled children, held in rooms on a lower floor of the Clinton School. The building was remodeled in 1910 in order to provide special rest rooms and lavatories, a kitchen and a dining room for the crippled children. The board of education has recently purchased a site for a separate building for the crippled children.

The total number of different children enrolled for 1915-16 was 76, with 67 as the highest number on the roll at one time during the year. There are three teachers, and the number of pupils per teacher is not often more than 23. Each teacher of crippled children is paid \$200 a year more than a teacher doing similar work with children who are not crippled.

*Transportation and lunches.*—Transportation is furnished by the city. Carriages were used at first, but in 1914-15 a new system was adopted. Since that time the children have been taken to and from school in the police patrols. The report of the superintendent of schools of Detroit for 1914-15 (p. 134) states that, "The children enjoy a much faster and safer trip." The patrolmen serve as attendants, and the superintendent says in the same report that they "have been untiring in their efforts to make the trip as comfortable and pleasant as possible." Free hot lunches are served at noon and crackers and milk in the middle of the morning.

*Medical supervision.*—An orthopedic surgeon, appointed by the board of health, examines all children applying for admission to the classes for cripples, and visits the school at intervals to examine the pupils and perform small operations. The school nurse gives massage and electric treatments. The Detroit Association for the Aid of Sick and Crippled Children supplies crutches and braces to all pupils in need of such help.

*Sessions.*—The hours of the sessions are identical with those in other public school classes in the spring and fall; but from November until April, the classes for cripples begin an hour later in the morning, so that the children need not leave their homes so early in cold weather.

*Curriculum.*—The curriculum has a surprisingly close resemblance to that for perfectly sound children. There is more attention paid to handwork, to which all of the children give at least half an hour every day. In addition to the usual hand processes with paper and

raffia, creditable work has been done by some of the older children in knitting, crocheting, and rug making. In 1915-16, one of the teachers taught a millinery class for girls. Several of the older boys have gone for one day each week to another public school building for a special course in manual training.

*No high school for cripples.*—For the first time since these special classes were formed, the work of the eighth grade was completed by two crippled children during the school year of 1914-15. They could not go to high school because none of the high schools in Detroit offered the special facilities needed by these children. The director of the school, in her report for the year 1915-16, states:

We earnestly hope that in the event of our having a new building, we may be able to establish a trade school where these older pupils may learn a trade by which they can support themselves in later years.

#### BALTIMORE.

The city of Baltimore maintains two classes for crippled children in two different public school buildings. The city also supports a class for cripples at each of the three private institutions for crippled children in or near Baltimore, the Kernan Hospital and Industrial School for Crippled Children, the Children's Hospital School, and the Johns Hopkins Hospital School and Convalescent Home for Crippled Children (colored).

The numbers of pupils and teachers appear in tabular form as follows, in the report of the board of school commissioners of Baltimore for the school year ending June 30, 1916:

*Teachers and pupils in the schools for cripples at Baltimore, 1915-16.*

Schools.	Number of classes.	Number of teachers.	Average number of pupils belonging.	Average attendance for 1915-16.	Per cent attend-ance.	Number belonging, including temporary withdrawals.
School No. 20.....	1	1	15	14	93	17
School No. 22.....	1	1	15	14	88	23
Kernan Hospital school.....	1	1	13	12	92	10
Children's Hospital school.....	1	1	10	9	90	12
Johns Hopkins Hospital school.....	1	1	14	13	93	15

The two classes of public school buildings have sessions from 9 a. m. to 2 p. m. The city furnishes a light lunch at 10.30 and a more hearty midday meal. The children are transported between their homes and the school buildings by automobile patrols furnished by the board of police commissioners, but marked "School Ambulance."

The children range in age from 6 to 13. Most of them do work in one of the first four grades, with practically the same curriculum as that used for children in regular school classes, except that more handwork is done, including basketry and weaving.

The grade classes taught by public-school teachers at the three institutions cover about the same ground as those in the public school buildings, but the handwork has been further developed at the institutions. At the Kernan Hospital school a special teacher of handwork and industrial handicraft is employed by the institution. Good work is done in sewing, lace making, rug weaving, basketry, chair caning, burnt-wood work, stenography, and typewriting. At the Children's Hospital school a teacher from the Playground Association, half of whose salary is assumed by the hospital school, teaches advanced kindergarten work, basketry, and chair caning.

#### PRIVATE DAY SCHOOLS FOR CRIPPLES.

An account of public school classes for crippled children in the United States should also include mention of one school whose work is semiprivate, and three which are entirely private, because these schools were pioneers in the development of special educational work for crippled children before any regular public school classes were opened.

*The Industrial School for Crippled and Deformed Children*, in Boston, has done work of the highest order in the education of crippled children, both in grade branches and in industrial classes. The building was specially constructed for this purpose. It is modern in every particular and has all the equipment needed for the safety and comfort of crippled children. Its classrooms contain 100 desks and seats of the special adjustable sort. Each desk is adjusted at the beginning of the year, under the supervision of the doctor in charge, for the particular child who is to use it. The capacity of the school has recently been increased by the erection of a building for use as an outdoor classroom, which is a model structure for its purpose.

The equipment, which is equal to that in the best public schools, includes slate blackboards, maps, kindergarten materials, shop supplies, and machines for industrial classes. The curriculum closely resembles that of graded public schools, and many observers of this school believe that its teaching standard is above that in most public schools. Much instruction in handwork is given, including clay modeling, basket making and cane seating, sloyd, needlework, cobbling, cooking, typesetting, and printing. There are also special trade classes for cripples over 15 years of age, who give their entire time to the work. The subjects offered at present are needlework, proof reading, printing, basketry, and chair caning.

The children are transported in busses, and free meals are provided at noon, as well as lunches in the middle of the morning. A nurse is in constant attendance at the school and visits the homes of the children on Saturdays and during the summer months

ing physicians watch over the physical condition of the children and the nurse carries out their instructions, seeing, also, that the children go frequently to the various orthopedic dispensaries at which they are being treated. This school has a long waiting list and considerable time occasionally elapses before a vacancy permits admission of new applicants.

*The Crippled Children's East Side Free School*, of New York, is a private organization, owning its land and building. The school formerly financed all phases of its work, but the grade teaching is now supported by the city board of education, which furnishes the school equipment and pays the teachers. The classrooms accommodate about 200 children and the number registered is never below the full capacity. There are 163 desks and chairs of the special adjustable variety, and 33 kindergarten chairs. All grades, from the kindergarten through the eighth grade, are included. Classes are held on regular public school days from 9 until 2.30. The teaching very much resembles that in other public schools.

The private organization maintains the handwork and industrial classes, and a workroom for adult cripples where needle crafts of all sorts are carried on. Thirty-six girls and women earn from \$3 to \$15 per week in this workroom. The school has recently begun a very promising experiment in the teaching of box making as a trade for boys.

The private organization also supervises closely the physical health of all children in the building. It is worthy of note that the windows are kept open, and the air is good at all seasons of the year. A visiting orthopedic surgeon holds weekly clinics at the school. An assistant surgeon and a trained nurse assist in the adjustment of braces, application of plaster dressings, and other treatments. For more important operations the children are sent to various hospitals. Under the supervision of a staff of nurse maids, all the children have baths at the school twice each week. There were 9,703 baths recorded for one school year, and 450 visits were paid to the homes of the children. A summer home at Oakhurst, N. J., houses about 120 children at a time during July and August. Each child's stay varies from two to eight weeks.

*The Rhinelander Industrial School for Crippled Children*, in New York, represents a combination of private activities. The New York Children's Aid Society furnishes the building and pays the teachers of grade classes. The Brearly League maintains industrial classes. Busses are provided by another private gift.

The building is somewhat old-fashioned and has no elevator. For this reason the classes are arranged on a unique basis. The children able to climb stairs easily are assigned to the second floor; the others remain on the first floor. The two grade classrooms are much like

country schools; each includes work in all the eight grades. Regular class work lasts from 9 until 12 on the five school days each week.

In the industrial classes the girls learn all kinds of needlework, including fancy stitches. The distinctive feature of the school is its jewelry class for boys, taught by an expert jeweler from a high-grade shop. The boys work on a two years' apprenticeship basis. They pay no tuition and receive no pay, except for occasional pieces made to order outside of the short hours of the trade class, from 9 to 3. The boys are taught both the making by hand of artistic pieces and the machine processes which they need to know in order to secure positions in a regular commercial jewelry shop.

*The William H. Davis Free Industrial School for Crippled Children*, in New York, is a private charity, offering kindergarten and grade instruction under two teachers. A wagonette, with driver and nurse, transports the children. They are at the school from 9 to 4 and receive a free hot meal at noon. The girls are taught needlework, including the making of many fancy articles. A few of the older boys, with a former pupil of the school as teacher, have designed and made artistic pieces in carved wood and tooled leather. The school has a summer home at Claverack, N. Y.

## APPENDIX A.

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### SUGGESTIONS TO TEACHERS IN SMALL CITIES AND IN COUNTRY SCHOOLS.

The number of crippled children is fortunately small in proportion to the total number of children going to school in any community, and separate classes for cripples are possible only in fair-sized cities. Not many towns with a population less than 10,000 have need of a special class for cripples, unless the town has a hospital which takes orthopedic cases. Nearly every town has some cripples, however, and anything that the individual teacher can do to induce such children to come to school and to make their time in school comfortable and profitable is a real contribution.

The following are some of the practical ways in which any grade-school teacher can make it easier for the one or more crippled children who may attend her class. In the first place, she can arrange to give such children a shorter school day by letting them go home half an hour or an hour earlier than the other pupils. If the school has classrooms on more than one floor, the principal should assign to rooms on the first floor all crippled children who can not climb stairs safely.

The teacher should give to each crippled child a seat not attached to the floor, especially if the child wears a brace. It is usually easier for a child wearing any apparatus to take a comfortable position if his seat is movable. If some particular child is badly crippled, a teacher can sometimes induce the board of education to purchase an adjustable seat, or charitable people in the town can be persuaded to buy a wheel chair for him. If the school has any couch or cot, a crippled child may benefit by brief rest periods spent lying down.

It is usually not difficult to arrange for the child to bring his lunch to school. If the child's parents are poor, the teacher can often in some quiet way secure a gift which will make it possible to provide milk or other nourishing food as an addition to the child's lunch. If the child can not walk, perhaps the teacher can persuade a neighbor boy to bring the cripple in his express wagon or some tradesman who drives by the child's home may be willing to take him along.

If the teacher will permit a crippled child to do a large amount of handwork, she will find his interest unflagging. A child who can not run or jump is often unusually skillful with his hands.

Many of these suggestions do not concern the duties for whose discharge a teacher is commonly engaged, but most teachers do not stop with the letter of their agreements. The greatest service that can be rendered by an intelligent and sympathetic teacher to the occasional crippled child in her class is one that can not be easily tabulated. Her friendly interest will keep up his courage, especially during periods of illness. Her championship may prevent other boys from calling the cripple names and treating him with thoughtless cruelty. If the teacher can possibly find time to become well acquainted with the crippled child's mother and visit his home frequently, she can often help his physical cure by suggesting open windows, by advising more wholesome food, and by urging early hours for going to bed. There is scarcely any limit to the influence a teacher may exercise upon the development toward useful citizenship of a crippled child who might otherwise grow up dependent upon his family or upon charity.

## APPENDIX B.

### RECORD CARDS USED IN NEW YORK.

*Hospital record cards.*—When the department of physical training first took charge of the physical welfare of crippled children it was found necessary to have some official record whereby the school life of these children might be regulated according to the plan of treatment required by the orthopedic surgeon of each child. This has proved to be the essential basis for all recommendations for the kind and amount of both physical and mental work the child can do.

*Department of Education—City of New York.*

#### RECORD CARD FOR CRIPPLED CHILDREN.

Name ..... Born .....  
Family. Given.

Address No. .... Street. .... Floor. ....

Name of teacher.....

School..... Borough..... Date entered..... Class.....

#### RECOMMENDATIONS FOR PHYSICAL TRAINING.

Exercises indicated—Gymnastics.....  
 { For improving posture.....  
 { For alert response—control.....  
 { For physiological results.....

Games.....  
 { Seat games.....  
 { Quiet games.....  
 { Active playground games.....

Exercises contraindicated.....

Name of pupil.....  
Family. Given.

Hospital..... Physician.....

Diagnosis..... Date.....

Treatment—Mechanical appliances.....

Should the child be in hospital?.....

If not, is ..he physically able to attend school?.....

Should ..he be placed in a class with physically normal children?.....

Is the disease active at present?..... Date.....

Should ..he be permitted to climb stairs?..... No. flights.....

Chores..... Cardiac disease..... Vision..... Breathing..... Hearing.....

*Class record of physical welfare of crippled children.*—This card was originated for the use of the class teacher in order that the medical record on the hospital card might be transcribed in terms applicable to schoolroom activities. The physical and mental effort of each pupil is governed by the diagnosis and recommendations on the card. The physical-welfare card was tried by way of experiment last year with success. The principals find it helpful as a reliable record of the children in their classes for cripples, and in the opinion of one of the principals who have had the greatest experience with those classes, it is one of the best record cards for such purpose now in use.







## APPENDIX C.

### COST OF SPECIAL CLASSES IN CHICAGO AND CLEVELAND.

#### CHICAGO.

*Expenditures for public-school classes for cripples.<sup>1</sup>*

Teachers' salaries.....	\$14,905.00
Educational supplies.....	306.75
Lunches.....	2,300.00
Transportation.....	24,930.00
	40,441.45

Per capita cost:

Teachers' salaries.....	51.24
Educational supplies.....	.16
Lunches.....	7.96
Transportation.....	86.26
	145.56

#### CLEVELAND.

*Expenditures for public-school classes for cripples for three successive school years.<sup>2</sup>*

Year.	Cost of instruction.	Enrollment.	Per capita cost of instruction.
1913-14.....	\$5,262.84	117	\$44.98
1914-15.....	5,644.38	115	49.05
1915-16.....	5,588.89	127	* 44.00

<sup>1</sup> See Report of Superintendent of Schools for 1915-16, p. 80.

<sup>2</sup> Idem, pp. 57, 149.

\* Per capita cost for 1915-16 when reckoned on average monthly enrollment instead of on registration was \$58.40 instead of \$44.







THE TWO AMBITIONS.

Frank F. Stone. See page 42.

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 11

# A COMMUNITY CENTER

WHAT IT IS AND  
HOW TO ORGANIZE IT

BY

HENRY E. JACKSON

SPECIAL AGENT IN COMMUNITY ORGANIZATION



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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**"A system of general instruction, which shall reach every description of our citizens, from the richest to the poorest, as it was the earliest, so it shall be the latest of all the public concerns in which I shall permit myself to take an interest."**

**Thomas Jefferson.**



## LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, February 19, 1918.*

SIR: To make more valuable to the people those things from which the people are accustomed to derive value has very appropriately been said to be the prime business of legislators. That the schoolhouse, whose value to the people is already great, may become still more valuable to them, is the purpose of the community-organization movement which this bureau has undertaken to foster.

A great democracy like ours, extending over more than three and one-half million square miles of territory and including more than 100,000,000 people, must be alive, intelligent, and virtuous in all its parts. Every unit of it must be democratic. The ultimate unit in every State, Territory, and possession of the United States is the school district. Every school district should therefore be a little democracy, and the schoolhouse should be the community capitol. Here the people should meet to discuss among themselves their common interests and to devise methods of helpful cooperation. It should also be the social center of the community, where all the people come together in a neighborly way on terms of democratic equality, learn to know each other, and extend and enrich their community sympathies.

For this purpose the schoolhouse is specially fitted; it is nonsectarian and nonpartisan; the property of no individual, group, or clique, but the common property of all; the one place in every community in which all have equal rights and all are equally at home. The schoolhouse is also made sacred to every family and to the community as a whole by the fact that it is the home of their children and the training place of future citizens. Here all members of the community may appropriately send themselves to school to each other and learn from each other of things pertaining to the life of the local community, the State, the Nation, and the world.

The appropriation of the schoolhouse for community uses has well been called "a master stroke of the new democracy." These facts are not new, but the emphasis on their importance is new and

amounts to a new discovery. The Nation's immediate need to mobilize the sentiments of the people and to make available the material resources has directed special attention to the schoolhouse as an effective agency ready-made to its hand for this purpose. The national importance of this new organization is evidenced by the fact that the Council of National Defense has planned a nation-wide movement to organize school districts or similar communities of the United States as the ultimate branches of its council of defense system, believing that the organization of communities will enable the Council of National Defense to put directly before the individual citizen the needs of the Nation, to create and unify their sentiment, and to mobilize and direct their efforts for the defense of the Nation.

In order that this organization may be most effective and be made permanent, the council has expressed a desire to cooperate with the Bureau of Education, and I have detailed one of the specialists in community organization to cooperate with the council for the accomplishment of our common purpose. That the people may have information in regard to community organization in its simplest form, I recommend that the manuscript transmitted herewith be published as a bulletin of the Bureau of Education. It has been prepared at my request by Dr. Henry E. Jackson, the bureau's special agent in community organization.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

Your State, in extending its national defense organization by the creation of community councils, is in my opinion making an advance of vital significance. It will, I believe, result when thoroughly carried out in welding the Nation together as no nation of great size has been welded before. It will build up from the bottom an understanding and sympathy and unity of purpose and effort which will no doubt have an immediate and decisive effect upon our great undertaking. You will find it, I think, not so much a new task as a unification of existing efforts, a fusion of energies now too much scattered and at times somewhat confused into one harmonious and effective power.

It is only by extending your organization to small communities that every citizen of the State can be reached and touched with the inspiration of the common cause. The schoolhouse has been suggested as an apt though not essential center for your local council. It symbolizes one of the first fruits of such an organization, namely, the spreading of the realization of the great truth that it is each one of us as an individual citizen upon whom rests the ultimate responsibility. Through this great organization we will express with added emphasis our will to win and our confidence in the utter righteousness of our purpose.

WOODROW WILSON.

THE WHITE HOUSE,

*March 13, 1918.*

[Letter to chairmen of State Councils of Defense.]

## FOREWORD.

---

The challenge of the World War to all thoughtful people is to organize human life on saner and juster lines in the construction of a better sort of world. This bulletin aims to make a suggestion toward an answer to this challenge.

The sorrow and tragedy of the war cause men and women everywhere to ask themselves not only what sort of a world they ought to work for, but also how and where they can begin to work for it. To find a practical answer to these questions is the persistent prayer of all who believe in democracy. Honest prayer is the expression of a dominant desire for what we believe is best *and also the willingness to cooperate in bringing it to pass.* The following pages are addressed to those who are willing to cooperate in answering their own prayers, to those who know what sort of world they ought to work for but are at a loss to know what is the best instrument to be used for constructing it. This bulletin suggests such an instrument.

It is a curious fact that usually it is comparatively easy to interest ten men in an indefinite scheme about which they have nothing to do but talk, whereas it is difficult to induce one man to undertake a more modest but definite piece of constructive work. But the war has awakened the desire of all people of good will *to do something.* They want to make a motor-reaction to the war's challenge. They say: "We see what needs to be done. What is the best instrument with which to do it? That is the difficult thing to find." The suggestion here made is intended for such people, who have discovered the futility of attempting to purify the water in a well by painting the pump, and who therefore seek a constructive plan in the process of building a better world.

The instrument here suggested is The Community Center, which may be put into operation anywhere, in city, village, or countryside. If we desire to get anywhere, we have to start from somewhere. The place to start from is where we are. The best point of contact with the world problem, raised anew by the war, is to be found in the community where we live, for the world problem exists in every community in America. All political questions, if considered fundamentally, will be found to apply to human needs which are at once

local, national, and international. The international problem is now, and has always been, how to organize and keep organized a method of mutual understanding by which nations may cooperate rather than compete with each other. The national problem is to do the same for the social and economic forces within the Nation itself. The problem in any local community is to do the same for the forces operating in that community. With reference to this present and permanent world problem the writer has attempted to answer two questions—what is a community center, and how ought it to be organized. He has endeavored to make the answer as brief as may be consistent with clearness.

Our three most urgent national needs are to mobilize intelligence, food, and money. But it is not possible to mobilize them until we first mobilize the people. The Nation's present need has made apparent the necessity of organizing local communities. The Council of National Defense discovered it through its experience in the war. The Bureau of Education had begun the task before we entered the war. These two organizations have now united their forces for the accomplishment of their common purpose to promote community organization throughout the Nation. The slogan of the one is, "Every school district a community council for national service." The slogan of the other is, "Every schoolhouse a community capitol and every community a little democracy."

President Wilson has clearly indicated the profound significance of this movement in the letter he wrote to commend it. He elsewhere says that our present need is "to arouse and inform the people so that each individual may be able to play his part intelligently in our great struggle for democracy and justice." This is a perfect statement of the aim of our movement. With the addition of one word it would be a complete description of it. That one word is "organize." The aim of the movement—to arouse and inform the people, to enable each individual to play his part intelligently—can be achieved only when the people organize themselves.

The creation of a democratic and intelligent social order is essentially the same task, whether our approach to it be local, national, or international. This fact has been clearly understood by thinkers as far back as Socrates, who said: "Then, without determining as yet whether war does good or harm, this much we may affirm, that now we have discovered war to be derived from causes which are also the causes of almost all the evil in States, private as well as public." Anyone, therefore, who attempts to remove these causes in a local community is working at a world problem, and he who attempts to remove them as between nations is obliged, in order to preserve his honesty and self-respect, to make the same effort within his own

nation and in his own community. It magnifies the value and stimulates one's zest in working for it to remember that a community center is the center of concentric circles which compass not only the local community but also the larger communities of the Nation and the world. To establish free trade in friendship in all three communities is the goal of the community center movement.

HENRY E. JACKSON.

FEBRUARY 1, 1918.

# A COMMUNITY CENTER—WHAT IT IS AND HOW TO ORGANIZE IT.

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## PART I.

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### WHAT IS A COMMUNITY CENTER?

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#### THE PEOPLE'S UNIVERSITY.

"All men naturally desire knowledge," is the buoyant sentence with which Aristotle begins his great book on Ethics. It states our ground of hope for the possibility of progress and for the success of democracy. No democratic form of government can long endure without popular education or the means of acquiring it. The first and chief aim of the community center movement is to deepen the content and broaden the scope of the term "education" and to extend the activities of the public schools so that they may evolve into people's universities.

When it is remembered that only 10 per cent of the adult citizens have had a high-school education and only 50 per cent have ever completed the grammar grades, it becomes apparent that one of our greatest national needs is a university for the education of grown men and women. The public school as a community center is the answer to this national need. The community center movement recognizes the fact that the mind matures more slowly than the body and that education is a life-long process. While the public school is dedicated primarily to the welfare of the child, it is becoming daily more evident that the Nation's welfare requires it to be used for adults and youths as well. Notwithstanding the fact that it is our finest American invention and the most successful social enterprise ever undertaken, its golden age lies before it. It is now being discovered anew in its possibilities for larger public service. The fact that all men naturally desire knowledge is the fact which has justified the investment of \$1,347,000,000 in the public-school equipment; it is the fact which now justifies the use of this

equipment by adults. In every part of the country there is a manifest tendency for the public school to develop into a house of the people to be used by them for "mutual aid in self-development." This is the significant fact at the heart of the community center movement and the touchstone of its value for the national welfare.

### THE COMMUNITY CAPITOL.

"The walls of Sparta are built of Spartans," sang an old poet. The walls of America likewise are built of Americans. The primary function of the public schools is to make, not merely good men and women, but good citizens for the Republic. From the standpoint of citizenship, therefore, every schoolhouse ought to be used as a polling place. This is the first logical step toward making it the community capitol, although it may not be the first step chronologically. This use of the schoolhouse would save every State many thousands of dollars each year. When the people already own these houses, conveniently distributed in every section of the country, why should public funds be wasted in rent for other buildings? But economy, while a sufficient, is not the chief reason for making the schoolhouse a polling place. The best reason is the ideal for which the ballot box stands. It is the symbol of citizenship in America. As such it deserves a worthy place. In the last presidential election, President Wilson voted in a fire-engine house in Princeton, and Candidate Hughes voted in a laundry in New York City. Hitherto any kind of a place has been considered fit for the highest act of citizenship.

In the Hebrew republic the symbol of the nation was a small richly decorated box called the "Ark of the Covenant." It was kept in the most honored place in the national Temple at the capital. The corresponding emblem in the American Republic is the ballot box. It ought to occupy a place befitting its importance. The one fitting place is the public schoolhouse, the community capitol and the temple of American democracy. Moreover, the voting instrument, which is the chief national emblem in every democracy, should be constructed with architectural dignity and established permanently in the schoolhouse, because of the ideals it embodies and the supreme function it serves. It would thus be a perpetual reminder that the function of the school is to make citizens for the Republic. It would cause the question repeatedly to be asked, What kind of school subjects are best calculated to make good citizens? It would help to keep the curriculum vitalized, by connecting it with practical and national processes.

It can continue to be vital only by the continued process of adapting itself to meet the Nation's expanding needs. A fixed curriculum is a false curriculum. The significant fact about a school is not the



condition in which it is, but the direction in which it is moving. It's only safety, like that of an individual, lies in moving on. It will be stimulated to move on by making the practice of citizenship to be its goal. A constant reminder of the practice of citizenship is the presence of the polling instrument in the school.

### THE COMMUNITY FORUM.

It may or it may not have been a mistake to have granted suffrage to the average man. An educational and character qualification for voting may now be the wiser policy to pursue in regard to both men and women, for no man is fit to govern another unless he has sufficient self-control to govern himself, and yet no man, however intelligent, can be trusted to govern another man without his consent. At any rate, universal manhood suffrage is the present fact, and nothing is so convincing as a fact. Inasmuch as the right to vote on public policies is now in the hands of the average man, it is of paramount importance that he should be given the opportunity to make himself fit to perform this function intelligently. This is the necessity on which the community forum fundamentally rests. It is a school for citizenship.

The community forum is the meeting of citizens in their school-house for the courteous and orderly discussion of all questions which concern their common welfare. A community may begin with questions in which local interest is manifest, such as good roads, or public health, or the method of raising and spending public funds, or methods of production and transportation of food products. A discussion of these questions will reveal at once the fact that they transcend local limits. A road is built to go somewhere, and it will relate one community to another. Local health conditions can not be maintained without considering other localities, for the causes of local disease frequently lie elsewhere.

A local community pays part of the revenue raised by the county. The expenditure of these funds, therefore, is the affair of the local community. The same is true of the administration of State funds. The question of production and transportation is no longer regarded as a rural problem or a city problem, but a national problem. The reason why no community should live for itself is because none exists by itself. Every community is at the center of several concentric circles. The subjects of most value for discussion in a local forum are those which connect it with county, State, and National interests. And herein lies the educational value of the forum.

One of the folk high schools of Denmark maintains a regular study called "A Window in the West," the purpose of which is to acquire new ideas from England and America, that Denmark may use them

for its own improvement. Such a course should be in the curriculum of every public school. The aim of the forum is to put a new window into the mental outlook of every community. The value of an open mind can not be calculated. Every great leader of the world's thought and action has insisted on its indispensable importance. Confucius expressed it in the golden phrase "mental hospitality." Socrates used a phrase out of which was coined the word "philosopher." He said, "I am not a wise man; I am a lover of wisdom, the spirit of truth." So highly did he regard it that he called it a holy spirit. The reason why these masterful leaders of men so prized the habit of being open-minded is because they understood that without mental hospitality no progress in any line is possible.

Ours is a Government by public opinion. It is obvious that the public welfare requires that public opinion be informed and educated. The forum is an instrument fitted to meet the most urgent public need. It is organized not on the basis of agreement, but of difference. It aims not at uniformity, but unity. It would be a stupid and unprogressive world if all were forced to think alike. We are under no obligation to agree with each other, but as neighbors and as members of America it is our moral and patriotic duty to make the attempt to understand each other.

Public discussion renders a great variety of services to spiritual and social progress. It puts a premium on intelligence, liberates a community from useless customs, puts a check on hasty action, secures united approval for measures proposed, creates the spirit of tolerance, promotes cooperation, and best of all and hardest of all it equips citizens with the ability to differ in opinion without differing in feeling. This habit can be acquired only through practice. The forum furnishes the means for mutual understanding. It aims to create public-mindedness.

#### THE NEIGHBORHOOD CLUB.

The basic assumption of the community center movement is that democracy is the organization of society on the basis of friendship. "Man is a political animal," said Aristotle. He requires the companionship of his fellows. His happiness is largely linked up with their approval. His instinctive need for fellowship leads him to create a sort of social center out of anything available for the purpose. The post office has served as such a village center, but the free delivery of mail is destroying its social uses. The corner store has acquired fame as an informal forum and neighborly club, but the mail-order house is rapidly robbing it of members, and at best it serves only a few. The saloon has served the purpose of a neighborhood club and friendly meeting place on equal terms for large numbers of men, but moral and economic considerations have doomed it to extinction.

The post office, corner store, and saloon are passing as social centers, but they must be replaced with something better if they are not to be replaced with something worse. For only he can destroy who can replace. The public school therefore stands before an open door of opportunity to become a neighborhood club, where the people can meet on terms which preserve their self-respect. Almost every individual lives in the center of several concentric circles. There is the little inner circle of his intellectual and spiritual comrades; then the larger circle of his friends; beyond that the still larger circle of those with whom the business of life brings him into contact; and the largest circle of all includes all members of the community as fellow citizens. There need be no conflict among these circles, no suggestion of inferiority or superiority. It is never to be forgotten that these circles are concentric. The experiences of life make them natural and necessary.

The community center is limited only by this last and largest circle. It seeks to broaden the basis of unity among men, to multiply their points of contact, to consider those interests which all have in common. It is not difficult to discover that these are bigger, both in number and importance, than the things which separate men. The list of things which can only be achieved as joint enterprises is long. Roads can only be built by community cooperation. Only so can the community's health be safeguarded. Food, clothing, and shelter are the common needs of all. Production and transportation are therefore questions of social service. The Greek word for "private," peculiar to one's self, unrelated to the interest of others, is the original of our word "idiot." The corresponding modern term in our common speech is "crank." The community center is a sure cure for "cranks." It aims to promote public-mindedness.

The schoolhouse used as a neighborhood club renders therefore an invaluable public service. It seeks to create the neighborly spirit essential for concerted action. The means employed are various—games, folk dances, dramas, chorus singing—which require the subordination of self to cooperative effort, dinner parties, where the people break bread in celebration of their communion with each other as neighbors. These activities not only render a service to the individual by promoting his happiness and decreasing his loneliness, they discover in the community unsuspected abilities and unused resources. To set them to work not only develops the individual but enriches the community life.

The same is true of the spirit of play in general. To cultivate the spirit of play not only meets an instinctive human need for physical and mental recreation, but renders a distinctive service to democracy on account of its spiritual value. One can carry on the work of de-

struction by himself, but he must organize in order to produce. He must cooperate in order to play. He can not monopolize the victory; he must share it with the team. Play thus develops the spirit of sportsmanship, the willingness to play fair, the capacity to be a good loser.

It thus becomes apparent that the neighborhood club furnishes the key to the possible solution of a variety of problems—the Americanization problem, for example. The object of the community-center movement is to achieve “freemen’s citizenship,” both for native and foreign-born alike. But citizenship means membership. It is obvious that the teaching of English to aliens is not sufficient to make them members of America. To acquire the language as a means of communication with their fellows is, of course, a necessary preliminary. But it is only a means to an end. If they are ever to feel that they belong with us, the right hand of fellowship must be extended to them. The neighborhood spirit alone can create in them the spirit of America. One of the by-laws of the constitution of the Hebrew republic was to this effect: “Love ye, therefore, the resident alien, for ye were resident aliens in the land of Egypt.” This law does not enjoin citizens to teach them the language of the land. The necessity for that is assumed. The chief thing needful, it says, is to love them. Friendliness is not only the soul of democracy but also the most successful method of securing practical results. The community center is the most available and effective instrument through which this method can be applied. The process of Americanization consists essentially not in learning a language but in acquiring a spirit.

Cooperation and the spirit of sportsmanship are indispensable qualities for citizens of a democracy. The spirit and purpose of a neighborhood club are clearly suggested by the significant questions asked and answered by a negro bishop of Kansas. “When is a man lost?” he asked. “A man is never lost when he doesn’t know where he is, for he always knows where he is wherever he is. A man is lost when he doesn’t know where the other folks are.”

#### THE HOME AND SCHOOL LEAGUE.

The free public school is at once the product and safeguard of democracy. The kind of public school, therefore, which a community has is an accurate index of its community consciousness and its estimate of democratic ideals. “The average farmer and rural teacher,” says T. J. Coates, “think of the rural school as a little equipment where a little teacher, at a little salary, for a little while, teaches little children little things.” The object of the home and school department of the community center is to substitute the word “big”

for the word "little" in the above statement, to magnify the work and function of the school, to make it worthy to occupy a larger place in the people's thought and affection. This is the work which Home and School Leagues are now doing. The community center in no wise interferes with their work. It is not a rival but an ally. Its plan is to give to and not to take from the Home and School League. Indeed, it is probable that the Home and School League quite generally may become the parent organization out of which will be born the community center. This is the natural and logical thing to happen, and in many places it is the process of development now in operation. Wherever this occurs it is against the natural order for the mother to be jealous of the daughter. If and when a Home and School League expands itself into a community center, it ought to become a department of the community organization.

By becoming a department of a larger organization and limiting itself to its own special task, the Home and School League will not only do its work better, but it will find it more than sufficient to occupy all its time. Its specific work is to promote the progress of the school and to improve the school equipment. To this end it seeks to secure closer cooperation between the home and school, the parents and teachers. When Madam de Stael asked Napoleon what was needed to improve the educational system of France, he replied, "Better mothers." The noblest influence on any child is that of a good mother. Every school, therefore, ought to strive to keep a close bond between the home and itself. It ought to do so not only for the sake of the children while they are in school but also before they come to school and after they leave it. To build battlements around girls and boys at the point of their greatest danger, during the period between 16 and 21, when they are most neglected, is a task worthy in itself to enlist the deepest interest and occupy the entire energy of the Home and School League.

The three unsettled questions which schoolmasters are always debating—the content of the curriculum, the method of teaching, and the business management—will be illuminated if there is brought to bear upon them the viewpoint of parents who own and support the schools and who are interested to get the proper return on their investment. The same will be true of all school questions if considered from the standpoint of the community center. It will connect school activities with life processes. This means vitality for the school. For, as the great educational reformer Grundtvig said, "Any school that has its beginning in the alphabet and its ending only in book learning is a school of death."

Inasmuch as the key to a better school is a better teacher, the home and school department of the community center will make it its spe-

cial aim to develop the type of teacher described in Herbert Quick's "The Brown Mouse." It will endeavor to secure for teachers not only a larger degree of moral support but more adequate financial support, which is not the only thing needful, but the first thing needful toward the attainment of this goal. The constructive service rendered to the Republic by public-school teachers is as important, if not the most important, rendered by any class of public servants, and they are not mercenary or lacking in heroic devotion to the common welfare. But it is idle to expect that the right type of teacher can be secured or retained without a decent living wage. If Henry Ford is able to make \$5 the minimum daily wage for the work of producing his machines, there is still more justification for fixing this as the minimum for the far more delicate and difficult business of making citizens for the Nation. When a community offers such a wage, then and then only will it be able to secure a \$5 type of person for the position. In order to retain them after they are secured there ought to be a school manse—a teachers' house—as part of the necessary equipment of every school. Proper support and housing in order to secure the right type of teacher in itself constitutes a worthy program for this department.

The home and school department will naturally have charge of such school-extension activities as evening classes for youths and adults. These classes should be designed not only as a part of the work in the Americanization of immigrants, but for the better equipment of all citizens. "It is the prime business of legislators," said Confucius, "to make more valuable to the people those things from which the people are accustomed to derive value." This states in brief the function of the home and school department. The Nation's destiny was decided at the beginning by the establishment, for the first time in the modern world, of a free public-school system. To keep vital its processes and to improve its equipment that it may be still more valuable to the people is the chief business of this department.

#### THE COMMUNITY BANK.

The purpose of discussion in a community forum is not entertainment but action. It is responsible discussion; that is, it is discussion by citizens who bear the responsibility for voting on the question under discussion. Such questions will be many and various. Some will have a temporary and some a permanent value. They will naturally grow out of community-center activities. But in order to guarantee that these social recreational and educational activities shall be related to life there ought to be established one or two departments to meet concrete human needs.

One of the best of these is a community bank, for it not only meets a practical need but also cultivates an ethical view of money and uses

it as a means of moral culture. A community bank is primarily a savings bank both for children and adults. As regards children, it ought, so far as possible, to be a part of the curriculum of the school. Such banks are now conducted in many schools for children. Cooperative banks are conducted for adults in some States under the name of credit unions. New York State has a good law on credit unions, on which the laws of other States have been modeled.

But a real community bank is designed to serve other purposes than those of saving. Its aim is to multiply the efficiency of the people's savings by pooling them for cooperative uses. Its aim is to capitalize character and to democratize credit. It serves a community use by enabling the people to do jointly what they can not do separately. By clubbing their resources they can use their own money for their own productive purposes.

Such a bank, operated for the common welfare, will not only furnish the working capital for community enterprises, but will also be a loan society. It will make small short-time loans to its members on reasonable terms. It will thus become the salvation of the poor from the tyranny and degradation of the loan shark. It will also make large long-time loans to young men and women who desire to marry and start homes, in order to enable them to become the owners of houses. It will permit them to repay the loan on the amortization plan. No community could render a more statesman-like service to its members. The service already rendered by building and loan associations, which are in fact cooperative banks, is a guarantee of the success of the plan. There are in the United States 7,034 such associations, with a membership of 3,568,342, and assets amounting to \$1,696,707,041. These figures are eloquent and tell a significant story. They show how ready is the response of men to the opportunity of owning their own houses and that this opportunity needs to be vastly extended. The motto of the United States league of these associations is "The American Home, the Safeguard of American Liberties." The motto is both sentimental and accurately true. The well-being of a nation depends primarily upon the existence of conditions under which family life may be promoted and fostered. The family is the true social unit, older than church or state and more important than either. The welfare of family life is every statesman's chief concern.

The community bank enters not only a vitally important but a practically unoccupied field, and will meet felt needs unmet at present. The cooperative handling of credit is not new. It has been done in Europe for 50 years with marked success. The community bank is the adaptation to American conditions of the Raiffeisen Bank of Germany, the Luzzatti Bank of Italy, and the Government Bank of New Zealand. It is a democratic bank; **that is.**

it is *of* the people, in that it receives the people's money; it is *by* the people, in that it is operated by the people themselves; it is *for* the people, in that the money is used for the welfare of the people who saved it.

A community bank's ability to render these needed public services depends wholly on the people's desire and capacity to save and their willingness to pool their savings. To cultivate the habit of thrift is the first necessity. That America needs to acquire this habit is too obvious to need comment. Americans are the least provident of peoples. Compared with a list of 14 other nations, the number of people out of every thousand who have savings accounts is only about one-sixth as many in America as in the nation highest on this list, and less than one-half as many as in the nation lowest on the list. Switzerland stands highest, with 554. Denmark is next, with 442. The lowest is Italy, with 220. But in America it is only 99.

The economic welfare of a community, however, is not the most important result which the habit of thrift produces. Since money is the commonest representative of value and a symbol of the property sense, it is the best practical means of moral culture. A community bank will furnish the best antidote for the common desire to get something for nothing, "the determination of the ownership of property by appeal to chance," the habit of gambling, which is distorting the moral sense of all classes of people.

The community bank is designed to promote an ethical view of money. When we consider that if a man earns \$100 for a month's labor he has put into this money his physical force, his nervous energy, his brain power, that part of his life has been given away in return for it, then money becomes a sacred thing. When we consider the humiliation and suffering of a destitute old age entailed by a lack of economy, then the need of thrift assumes a new significance. When one considers how manifold are the bearings of money on the lives of men, and how many are the virtues with which money is mixed up—honesty, justice, generosity, frugality, forethought, and self-sacrifice—an ethical view of it is unescapable.

A small competency is necessary to make life what it ought to be for every man, especially in a democracy. "Whoever has sixpence," said Carlyle, "is sovereign over all to the extent of that sixpence; commands cooks to feed him, philosophers to teach him, kings to mount guard over him, to the extent of that sixpence." An assured competence, however small, gives the priceless blessing of independence. Not only personal health and happiness but social and political independence are involved in a man's saving fund. The kind and amount of service which a community bank can render to democratic ideals is beyond calculation.



**THE COOPERATIVE EXCHANGE.**

The fundamental aim of the community-center movement is to secure cooperation for the common welfare. But if cooperation is to be anything more than a beautiful dream, there must be cooperation about something. It must not only be good, but be good for something. When the spirit of cooperation has been created, it must have an outlet in action, for to stir up the emotions and give them no outlet is mere sentimentality and is dangerous to moral health.

This principle is at once the reason and impulse back of the cooperative enterprises now carried on in schools. They assume a great variety of forms. Sometimes it is a cooperative creamery and cheese factory, which in some rural sections has meant new hope and larger resources, not only for the school, but also for the homes of the community. Sometimes it is a farmers' club for the purchase of farm supplies. It may be a canning club in which the women meet in the school to preserve fruits and vegetables and sell them at cost, in order to raise funds for community uses, or for the national Red Cross. It may be a housekeepers' alliance, in which the women meet to exchange ideas as to the best methods of buying and preparing foods. In one community center the people have agreed to get their milk from one source and to pay for it in advance, in order to eliminate the wastes in distribution and receive the benefit of the money thus saved. For the successful handling of farm products it is essential that they be standardized both in form and quality. For this purpose it would be well to use a trademark or label, which would be of psychological value in suggesting teamwork, and also be a guarantee of quality.

All of these activities are now in the process of being grouped together under a buying club, or cooperative exchange, for the organization of which there is a rapidly growing demand. The State of North Carolina has already passed a law authorizing communities to organize them in the schoolhouses. Cooperative buying and banking has been operated with notable success for 50 years in England, Denmark, and other countries. It has met little success as yet in America, because Americans have been too rich and too individualistic. There seems to be an obvious need for an intermediate step between unlimited competition and the European type of cooperative society. It seems probable that this need will be supplied by the buying club. It is not a shop in the English sense, nor a store in the modern sense, but a store in the original American sense—that is, a storehouse, a distribution station for goods kept in their original containers. Indeed, for the most part no goods need to be kept in the schoolhouse at all. The schoolhouse is used chiefly for the stimulation and formation of plans of operation.

Three things are necessary to success in any practical cooperative enterprise—a desire to save, good business sense, and the spirit of cooperation; of these the greatest is the last, because cooperation is primarily a state of mind; it is a matter of education. It is significant that the cooperative societies of England not only gave the name “society” to their organization, but also devote  $2\frac{1}{2}$  per cent of their annual profits to the education of their members in the principle and practice of cooperation.

Thus there grew up in these stores real social-center activities. In America social and civic activities are already started in the schoolhouses, and out of them practical cooperation is now developing. Our approach is the reverse of the English experience, but the principle is the same. It is highly important to see clearly that the other community-center activities are an educational necessity to the success of its practical cooperative enterprises. A buying club unattached to the means of creating the cooperative spirit is almost sure to fail.

It will save time to recognize at the beginning that to acquire the spirit and method of cooperation is a slow process of education. The chief danger to be guarded against is the common tendency on the part of Americans to demand fruit the day the tree is planted. While the spirit of cooperation is difficult to acquire, like all other good things, yet it is worth all it costs. Cooperation in buying and banking is itself the best of means for moral culture. Its educational value is of the highest. It minimizes the evils of debt, cultivates self-control and self-reliance, checks reckless expenditure, develops a sense of responsibility, quickens intelligence and a public spirit, and prepares citizens for self-government in a democratic state. The schoolhouse is not only the appropriate place to acquire these educational values and cooperative virtues, but it also furnishes the inspiration for success in the process, because the American public school is itself the most successful social enterprise yet undertaken in this or any other nation.

### THE CHILD'S RIGHT OF WAY.

It is because there exists in America a marked degree of independence and initiative, and consequently a wide divergence in local conditions, that community centers differ widely in the kind and number of their activities. While variety in unity is the democratic law of development, yet unity in variety is the other half of the same law. There are certain kinds of activities required by universal human needs. The activities herein described are the typical activities adapted to the average normal community, both rural and urban. If then one were asked what a community center aims to be, it is a

sufficiently full and accurate answer to say that it is, what has just been briefly described, a people's university, a community capitol, a forum, a neighborhood club, a home-and-school league, a community bank, and a cooperative exchange. It is all of these in one organization. The unity among them is vital and organic like the unity of the fingers in a hand.

Whatever the number and variety of activities undertaken, the distinguishing mark of the community center is the fact that it is organized not on the basis of personal pleasure or private profit or any political or religious creed, but on the basis of responsibility for the welfare of children. The "house of the people" in which it meets is the symbol of its central idea. The public school is the only national institution primarily dedicated to the welfare of the child.

Here as nowhere else men and women forget their partisan and sectarian divisions and breathe an atmosphere which accentuates their resemblances and minimizes their differences. Childhood is the ground floor of life. It takes us beneath all superficial and artificial distinctions.

Centuries ago a great statesman and philosopher said that the key to any right solution of our social and economic problems is to be found by "setting the child in the midst of them." Jesus regarded the child as the model citizen in the Kingdom of God, which was his term for democracy. The child is still the most respectable citizen we have. The position of Jesus on the place of the child has been shown by John Fiske to be abundantly supported by the biological history of the race. The prolonged infancy of the human baby is the factor which developed motherhood and all our altruistic sentiments. And it will be by keeping the child in the midst of our thought, by giving the child the right of way in our economics, by making the child's welfare the formative principle in our social and civic activities that we will transform these activities into community interests.

This the community center aims to do. In brief, it is a movement for the extension of the spirit of the home and fireside, the spirit of childhood, of good will, of intelligent sympathy, of mutual aid—the extension of this spirit to all the activities of the community. The indispensable importance of this spirit can not be overemphasized, for without it a community center is a body without a soul, and a body without a soul is not a living thing. A community center's capacity to produce practical results is always to be measured by its capacity to create such a spirit. For, as John Dewey wisely says:

The chief constituent of social efficiency is intelligent sympathy or good will. For sympathy, as a desirable quality, is something more than mere feeling. It is a cultivated imagination for what men have in common and a rebellion at whatever unnecessarily divides them.

## PART II.

### HOW TO ORGANIZE A COMMUNITY CENTER.

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What needs to be done is fairly clear; how to do it is the difficult thing. "If," said the shrewd Portia, "to do were as easy as to know what were good to do, chapels had been churches and poor men's cottages princes' palaces." Nevertheless, to discover how, while difficult, is an inspiring task. In the organization of a community center the essential factors to be considered are its membership, its size, its executive officer, its board of directors, its finances, and its constitution. The suggestions here offered concerning them, together with the reasons for the suggestions, are the product of experience and have been tested in operation.

#### A LITTLE DEMOCRACY.

The organization of a community around the schoolhouse as its capitol is the creation of a new political unit, a little democracy. It is new in the sense that it is the revival and enlargement of an old institution that we ought not willingly to let die. Thomas Jefferson did not exaggerate when he said:

Those wards called townships in New England are the vital principle of their governments, and have proved themselves the wisest invention ever devised by the wit of man for the perfect exercise of self-government and for its preservation. \* \* \* As Cato, then, concluded every speech with the words, "Carthago delenda est," so do I conclude every opinion with the injunction, "Divide the counties into wards."

The movement to organize local self-governing communities takes us back not only to the New England town meeting but still further back to the Teutonic "mark," the Russian "mir," and to the ancient Swiss cantonal assembly. The fact that free village communities in some form have existed in so many parts of the world is a significant indication of a universal conviction that such organization is a necessity to human welfare.

The community center aims to form such a free village community, a town, a borough, a little democracy, both in the cities and the open

# The Community Association

*(TRADE MARK REG. U.S. PAT. OFFICE)*



Each for all  
All for Each

A SUGGESTED SYMBOL FOR THE USE OF COMMUNITY CENTERS.

See page 21.



country. Its capitol, or headquarters, is the schoolhouse, because this is the most American institution and the only one suitable for the purpose. It alone provides a place where all can meet on equal terms of self-respect. It is conveniently distributed in every city, town, and village in America. The term "center" applies to the schoolhouse, the place of meeting. The term applied to the organization of the people themselves is "community association."

The first step in organization is to define the boundaries of the community. These ought to be determined along natural lines, such as the territory from which the children in the school are drawn, or a district in which the people come together for other reasons than the fact that an artificial line is drawn around them. It ought not to be too large.

Being a little democracy, all adult citizens, both men and women, living in the prescribed territory are members of it. It must be comprehensive if the public schoolhouse is to be used as its capitol. It must be nonpartisan, nonsectarian, and nonexclusive. You do not become a member of a community center by joining. You *are* a member by virtue of your citizenship and residence in the district. Everywhere else men and women are divided into groups and classes on the ground of their personal taste or occupation. In a community center they meet as "folks" on the ground of their common citizenship and their common human needs. This is the distinguishing mark of the community center.

It is quite true that this democratic ideal is difficult to operate. That is nothing against it. All worth-while ideals are difficult. Fisher Ames says, "A monarchy is a merchantman which sails well but will sometimes strike a rock and go to the bottom, whilst a republic is a raft which will never sink, but then your feet are always in the water." Let us grant that it may be even hot water, but it is quite as true that the very difficulty in operating the democratic ideal constitutes its fascination and its worth. When a thing becomes easy of accomplishment it loses much, both of its value and its interest.

#### MEMBERSHIP IN AMERICA.

It is possible for the form of democracy to exist without its spirit and method. The term "community" is not merely "a geographical expression." It applies not only to a geographical area, but embodies an idea. Its real content includes the spirit and method of democracy. Unless it promotes this spiritual ideal its meaning is of small value. The Century Dictionary quotes the Attorney General of the United States as saying, "The phrase, 'a citizen of the United States' without addition or qualification means neither more nor less than a member of the Nation."

Membership implies obligation and responsibility. It gives not only a new sense of pride, but an intimate feeling of duty to the common welfare for a man to say to himself, "I am a member of America." To make citizenship mean membership is one of the obvious needs in every community. The outstanding characteristic of the American Republic, which is unlike any other in the world, is that it is a double government, a double allegiance. It is a "Republic of republics." Every citizen feels two loyalties—one to his State and the other to his Nation. In addition to these two he feels a third loyalty. It is to his local community. And just as every man is a better citizen if he is first of all devoted to his own family, so will he be more loyal to the State and Nation if he is loyal to his own community.

To induce citizens to recognize their responsibility for the administration of public business, to become active members of their own communities, to assist in the improvement of local schools, of politics, of roads, of the general health, of housing conditions—this is the result which the community center aims to achieve. It is the law of all improvement that you must start from where you are. If a man can not love his own community, which he can see, how can he love the whole country, which he can not see?

The success of the work in any community depends on the amount of public-mindedness existing there or the possibility of creating it. Those who undertake community-center work ought to guard themselves against the danger of expecting too much at the start. To develop public-mindedness is a slow and difficult task. It ought never to be forgotten that democracy, like liberty, is not an accomplishment but a growth, not an act but a process.

It is of the highest importance that this fact should be perceived by pioneers in community work, in order that they may not be deceived by the passion for size and numbers. A dozen public-minded persons are sufficient for a beginning. One of the biggest movements in history began with a little circle of 12 men.

They who have discovered the meaning of democracy do not need large immediate results to keep up their courage; they only need a cause; and the greatest of all causes is constructive democracy. The people will respond when they understand. In the entire history of the community-center movement there has never been a time more than now when they were so ready to respond. Let no worker in any community despise small beginnings. It is always better to begin small and grow big than to begin big and grow small.

#### THE COMMUNITY SECRETARY.

Nothing runs itself unless it is running down hill. If community work is to be done, somebody has to be the doer of it. The growing



realization of this fact has led to the creation of a new profession. The term applied to this profession is "community secretary," "a keeper of secrets," a servant of the whole community. This community executive should be elected by ballot in a public election held in the schoolhouse and supported out of public funds. There are now four such publicly elected and publicly supported community secretaries in Washington, D. C., and eight more such offices are in the process of being created. It seems certain that it is destined to be one of the most honored and useful of all public offices. Its ideal was expressed by the "first real democrat in history," when he said, "The kings of the Gentiles are their masters, and those who exercise authority over them are called benefactors. With you it is not so; but let the greatest among you be as the younger, and the leader be like him who serves."

The qualifications for this office are manifestly large, and its duties complex and exacting. The ablest person to be found is none too able. The function of the secretary is nothing less than to organize and to *keep organized* all the community activities herein described; to assist the people to learn the science and to practice the art of living together; and to show them how they may put into effective operation the spirit and method of cooperation. Who is equal to a task like this? In addition to intellectual power and a large store of general information, one must be equipped with many more qualities equally important. The seven cardinal virtues of a community secretary are: Patience, unselfishness, a sense of humor, a balanced judgment, the ability to differ in opinion without differing in feeling, respect for the personality of other people, and faith in the good intentions of the average man. When one considers the requirements for this office, one's first impulse is to do what King Solomon did. After making a rarely beautiful description of a wise and ideal wife, he ended it by asking, "but where can such a woman be found?"

There will be no dearth of able men and women to fill this office, when once it is properly created and adequately supported. For there is a particular satisfaction, not otherwise obtainable, to be derived from the service of a cause bigger than one's personal interests. Where possible, the community secretary ought to be the principal of the school. But where the principal can not be released from his other duties sufficiently to undertake the work, the secretary ought to be a person who is agreeable to the principal, in order to insure concerted action. In thousands of villages and open-country communities the teacher's work lasts for only part of the year and the compensation is shamefully inadequate. This

economic waste as well as an injury to children. If these teachers were made community secretaries, were given an all-year-round job and were compensated for the additional work by a living wage, it would mean a better type of teacher and a better type of school. The bigger task would not only demand the bigger person, but the task itself would create them. Moreover, when the teacher's activities become linked up with life processes the community will be the more willing to support the office adequately. It seems clear that the office of community secretary is the key to a worthier support of the school. It will magnify the function of teaching, give a new civic status to the teacher, and make more apparent the patriotic and constructive service which the school renders the nation.

While the demands which this new profession makes may seem discouragingly high, nevertheless therein lie its merit and charm. "Our reach should exceed our grasp," or there is no opportunity for growth. The position is so big that it can not be outgrown. It is worthy of anyone's life-time loyalty. A change to any other vocation is not a promotion. A teacher who is a community secretary, or who is associated with one in community work, is justified in having the same degree of self-respect and exalted regard for the worth of his work which was expressed by a great pioneer in the same field, Pestalozzi. At one period of his career, he went to Paris, and a friend endeavored to present him to Napoleon the Great. Napoleon declined. "I have no time for A. B. C.," he said. When Pestalozzi returned to his home his friends asked him, "Did you see Napoleon the Great?" "No; I did not see Napoleon the Great, and Napoleon the Great did not see me."

#### THE BOARD OF DIRECTORS.

However able a community secretary may be, no one alone is able enough for the constructive kind of work which the community center requires. Since it is a cooperative enterprise, it is necessary that it be democratically organized. The next step in its organization therefore should be to provide the secretary with a cabinet. It may be called a board of directors, or a community council, or an executive committee. These names suggest its various functions. Its first function is to give council and advice to the community secretary, to act as a little forum for discussion, out of which may develop wise methods of procedure. Its next function is to share with the secretary the responsibility for the work, the burden of which is too heavy to be borne by anyone alone. But the cabinet is not a legislative body alone, to determine what is to be done, but also an executive body as well. It is not only an executive body, to carry

out the general plans of the association, but also a body of directors to plan and conduct special kinds of activities. In every community there are men and women who have the ability and leisure to render public service. As directors they would have a recognized position and channel through which they can more effectively render such service.

Each director ought to be the head of a department of work, or at least the head of every department of work ought to be a director. The head of each department ought to choose the members of his own committee. Thus by having the heads of departments of work on the board of directors, the entire work of the association can be frequently reviewed, and the departments of activity can by cooperating not only avoid needless waste through duplication but also stimulate each other. The board of directors ought to hold regular meetings in the schoolhouse, and in order that the work may be responsive to public opinion the meetings ought to be open to any who wish to attend them, just as the meetings of a town council are open. The community center stands for visible government and daylight diplomacy.

In the conduct of the association's activities a large measure of freedom ought to be granted the directors as well as the secretary. There can be no responsibility without freedom. The test of democracy is its willingness to trust its leaders. It is a test which democracies find it difficult to measure up to. The association ought to hold its officials to strict accountability, and it has the power to recall and replace them, but while they are in office and bear the responsibility they ought to be given freedom to use the means and methods which in their judgment are best suited to produce the results expected of them. The question here raised by democracy is not the extent of authority but its source. The principle of democracy is preserved if the source of authority is limited; the efficiency of democracy is secured if the extent of authority is enlarged.

The directors in community-center work will not only feel the need of taking counsel with each other, but also of getting suggestions from other communities. In every city and county the community associations would do wisely to form a league for the purpose of pooling their experience and helping each other in what is manifestly a difficult task. In such a conference the representatives of local communities would discover that there may be many good roads leading to the same goal. Moreover, while it is possible to agree on our goal, it is rarely possible to agree on the methods of reaching it. No principle is more important to observe in conducting community work. If, then, we can agree on our goal, we may well spare criticism on our fellows who travel a road different from ours.

**THE TROUBLE COMMITTEE.**

It is not so difficult to organize a community center; the difficulty is to keep it organized. By no means the only one, but the chief means of securing a permanently useful community center is to have a wise and constructive program, big enough to merit interest. A good way to formulate such a program is to appoint a permanent committee which we may call "the trouble committee." The function of this committee is not to make trouble, but to remove it. Its task is to discover the causes of trouble in the community, to learn the reasons for dissatisfaction, to state the problems which ought to be solved, to exhibit the thing that needs to be done.

A community center can get helpful suggestions concerning programs from State universities or extension committees, and it will naturally want to discuss the questions prominently in the public mind, but the most interesting and constructive program is the attempt to improve conditions of living on its home soil. In such a program the first thing needed preparatory to action is diagnosis. Problem making is almost as important as problem solving. To know what the problem is, is half the battle. When the terms of a problem are accurately stated, the problem itself is partly solved in the process. It was a frequent experience of Lincoln that, after he had stated the facts of a case in court, the trial of it was arrested and called off.

The work of the trouble committee is problem making. For example, why are country-bred boys leaving the farm in such large numbers; is farming a profitable industry; to what extent is the food of the country produced by the unpaid labor of children; does it pay better to rent or to own a farm; could an average young man earn enough from a farm to pay for it by honest labor in a reasonable number of years; why do half the girls and boys fail to finish the grammar grades in school; is the work of transportation and distribution of food supplies economically done; why is the cost of living so high? If any community center should attempt to discover the causes of these unsatisfactory conditions, it would be a vital and attractive program sufficient to occupy it for several years.

The function of the trouble committee is to furnish nuts for the community association to crack. No one believes in diagnosis for the sake of diagnosis any more than he believes in "amputation for the sake of amputation." Its only use is to reveal the disease and to point the way to a remedy. The aim of the trouble committee is to point out the difficulties at the bottom of our social problems for the sake of removing them. Whenever they are removed, the problem vanishes. The method of the committee is constructive democracy.

No community, however, ought to assume that it can solve all of its problems, at least, not speedily. "We are not born," said Goethe, "to solve the problems of the world but to find out where the problems begin, and then to keep within the limits of what we can grasp." This is a luminous remark, and the trouble committee merely assumes that in treating any problem the place to begin is at the beginning of it, and that the beginning of it is its cause. It assumes that "there is no alleviation for the suffering of mankind except veracity of thought and action, and the resolute facing of the world as it is." It assumes that it is not possible to purify the water in a well by painting the pump. It is painful to think how much social energy has been wasted in this process. No community center whose program is limited to painting the pump can either win or long hold the support of thoughtful men and women. Nor does it deserve to. The test of sanity used in some asylums is to take the patient to a trough partially filled and into which an open spigot is pouring new supplies of water. The patient is asked to bail the water out of the trough. If he attempts to do so without first turning off the flow he is regarded as insane, and properly so. It is obviously sane to turn off the spigot, to remove the causes of disorder, if we ever expect to produce a social order in harmony with the intelligence and conscience of the Nation. This is the purpose and function of the trouble committee. For the most part, this committee holds the key to the success or failure of a community center.

#### PUBLIC AND SELF-SUPPORT.

The finances of an organization usually constitute its storm center. Money is the kind of thing it is difficult to get along with and impossible to get along without. After a community center determines its plans and policies, the next question in its organization is finance. But since money is the root of so much trouble, it ought to be kept in the background. It is properly called "ways and means." It is not the end; human welfare is the end. Money is a detail, and ought always to be treated as such.

The superior advantage of a community center over private organizations is that it does not need an amount of money sufficient to cause it any distress. To begin with, there are no dues. They are already paid when the taxes are paid. The schoolhouse, together with heat, light, and janitor service, and in some places a portion of the secretary's salary, is provided out of public funds. Thus the overhead charges are comparatively very small. The time will doubtless come when the entire expense will be provided out of public funds, but the movement is new; and for the present and ~~in~~ future, if the building, heat, light, and janitor service are provided, is all that can reasonably be expected.

The community center needs, for the present, to supplement its public funds. The highest salary paid out of public funds to a community secretary in Washington, D. C., is \$420 per year. This is not a salary, but a contribution toward a salary. This amount must be increased if we can hope ever to secure and retain the right type of person for this position. Then there is the stationery, postage, printing, and clerical work. How are these needs to be met? The only way is by voluntary effort. Each department of activity ought to be self-supporting. Those departments, like the buying club and the bank, which have an income ought to contribute a certain regular percentage to the association as a whole, because its general activities are necessary to the success of these departments. This percentage should be considered part of the necessary operating expenses of each department. The members of the community association ought to register to indicate their intention to take an active part in its affairs. When they do, a small registration fee should be charged.

These two sources will doubtless net sufficient funds. If they do not, then voluntary contributions and entertainments should furnish what is needed. It ought to be clearly noted that for a community center to raise part of its funds by voluntary effort does not mean that it is privately supported. The community association is a public body. As such, what money it raises is public money. It is not private support, but voluntary self-help. In a community center, public support and self-support are one and the same thing. Since the amount needed to be raised by voluntary effort is smaller than the amount received from public funds, there is little danger that large givers will have the opportunity to dominate the policies of the community center through their gifts. Above all others, this is the one danger most to be guarded against. Because it is chiefly supported by public taxation, the community center is a place where all can meet on the basis of self-respect, where a man's standing is determined not by gifts of money, but by character and intelligence. Whenever this condition ceases to exist the community center dies.

But so long as the finances are organized democratically, the need for the community itself to raise part of its fund is a moral advantage and is social justice. For until public opinion becomes informed and unified a city or county must be fair to all its communities. To compel one community, without its consent, to support the activities of another is manifestly unjust and undemocratic. Whitman's definition of democracy, "I will have nothing which every other man may not have the counterpart of on like terms," is our guiding principle in community finances. For a community to raise part of its funds is not only social justice to other communities but a benefit to the community itself. The community center is an enterprise

for mutual aid in self-development. The process of raising part of its own funds is one of the means of such development. The people are compelled to pay taxes, but what they freely choose to contribute to their own enterprise is the only trustworthy guide to their attitude toward it and the best stimulus of their devotion to it. There can be self-development only where there is freedom. Partial voluntary support by a community insures local autonomy. "Democracy," says Bertrand Russell, "is a device—the best so far invented—for diminishing the interference of governments with liberty." But political freedom is conditioned upon financial freedom. A degree of self-support, therefore, frees a community from the domination of city and county governments. These considerations, if accepted as true, convert apparent burdens into blessings and weights into wings.

### A WORKING CONSTITUTION.

What's a constitution among friends? It's a necessity if they are to continue to be friends. As the word itself suggests, a constitution establishes the basis on which friends may stand for the accomplishment of their common purposes. Its value is always to be measured by the importance of the purpose to be accomplished. Inasmuch as the purpose of a community center is of the highest value not only to the welfare of the local community, but also to the welfare of democracy in the Nation and in the world, the making of its constitution is a highly important item in its organization. "If democracy," said Havelock Ellis, "means a state in which every man shall be a freeman, neither in economic, nor intellectual, nor moral subjection, two processes at least are necessary to render democracy possible; on the one hand, a large and many-sided education; on the other, the reasonable organization of life"—nothing less than to state how these two objects may be secured is the purpose of the constitution of a community center.

It will thus be seen that this constitution is very different from that of an ordinary society, which merely aims to give information about officers and meetings. This one may deeply affect the spiritual and economic life of a community. As the expression of certain ideas in a document known as "Magna charta," was a great gain in the long fight for freedom in the English-speaking world, so the expression of a community's new social purpose may mean new freedom for it.

As regards the work of the community center, the constitution is a working agreement, a clear understanding as to what is to be done and who is to do it. A clear statement will prevent needles ~~and~~

and confusion. As regards the growth of the work in the community, the constitution will serve the purpose of propaganda. If a new or uninformed member of the community should ask an active member, "What is a community center and what is its purpose?" a copy of the constitution ought to furnish a full answer to his question. Therefore, it should not be too brief, if it is to answer this purpose.

Each community ought to draft its own constitution, not only because the needs of communities vary, and not only because it should be the honest expression of the community's own thought and purpose, but especially because a constitution brought from outside and dropped on the people's heads has little value for the community. Of course, it is possible for a community to work over and assimilate another community's constitution until it becomes its own. It ought also to get help and suggestions from as many constitutions as it can find. For this reason there will be found in Part III the copy of a constitution which the writer prepared to meet the needs of the Wilson Normal Community in Washington, D. C., his own community. It was patiently considered in committee and thoroughly discussed in public meetings. It is now in operation.

It is better for the people to make their own, either by creating a new one or adapting others to their needs, even if it is not as well done as somebody else could do it for them. In starting a community center an organizing committee should be charged with the task of drafting and submitting a constitution. If several weeks were spent on the task both in committee work and in public discussion, the time would be well spent. The educational value of the process is too great for the people to miss. The process would educate a considerable number who will grasp the meaning of a community center and who will therefore be equipped to a degree for conducting its work.

While the types of constitutions will be very various, yet there are certain formative principles which are basic in the structure of a community center. They are so essential to the life of the community ideal that the writer has called them "The ten commandments for a community center." They are as follows:

- I. It must guarantee freedom of thought and freedom in its expression.
- II. It must aim at unity, not uniformity, and accentuate resemblances, not differences.
- III. It must be organized democratically, with the right to learn by making mistakes.
- IV. It must be free from the domination of money, giving the right of way to character and intelligence.
- V. It must be nonpartisan, nonsectarian, and nonexclusive both in purpose and practice.



- VI. Remember that nothing will run itself unless it is running down hill.
- VII. Remember that to get anywhere, it is necessary to start from where you are.
- VIII. Remember that the thing to be done is more important than the method of doing it.
- IX. Remember that the water in a well can not be purified by painting the pump.
- X. Remember that progress is possible only when there is mental hospitality to new ideas.

#### DECREASE OF ORGANIZATIONS.

Edward Everett Hale reported Louis Agassiz as saying that when he came to America one of the amazing things he discovered was that no set of men could get together to do anything, though there were but five of them, unless they first drew up a constitution. If 10 botanists, he said, met in a hotel in Switzerland to hear a paper read, they would sit down and hear it. But if American botanists meet for the same purpose, they spend the first day in forming an organization, appointing a committee to draw a constitution, correcting the draft made by them, appointing a committee to nominate officers, and then choosing a president, vice president, two secretaries, and a treasurer. This takes all the first day. If any of these people are fools enough or wise enough—"persistent" is the modern word—to come the next day, all will be well. They will hear the paper on botany. This is a good-natured, but well-deserved, criticism of the common tendency to start a new organization if anyone has an idea he wishes to propagate.

The resulting damage of a multiplicity of organizations is that so much energy is consumed in the work of organizing that there is not enough left to operate them. It is like the steamboat of Lincoln's story, with a 7-foot whistle and a 5-foot boiler. Every time the whistle blew the engine had to stop running.

There now exist over 80 separate organizations for the purpose of supplying some kind of war relief. Many of them have already applied and more doubtless will apply for permission to use the public schools to advance their various causes. It would be nothing short of a public benefaction if some device could be found to decrease the present number of organizations and prevent the inexcusable economic waste due to the duplication of activities. It is because we have so many organizations (plural) that we need more organization (singular) as a cure for this needless waste.

The community center is such a device. It can perform the ~~function~~ function because it is a comprehensive organization. The cen'

American community is the free public school, the only center it has. The community center is not a rival, but an ally, of other organizations. It is more; it is their foster mother; it is the matrix which gives them their setting. It embraces them as departmental activities. It is a coordinating instrument. It is a bureau of community service. Both its spirit and method are well stated in the lines of Edwin Markham, which he appropriately calls "Out-witted":

He drew a circle which shut me out,  
Heretic, rebel, a thing to flout;  
But Love and I had the wit to win,  
We drew a circle that took him in.

The fact that a community center is the community matrix explains why and how it can decrease the number of organizations and prevent unnecessary new ones from forming. The method of direct attack is not only inconsiderate, but is foredoomed to failure. If a community center should say to any existing organization, "We want you deliberately to disband, to chloroform yourself," it would defeat its own purpose. Human nature just doesn't operate that way. The wiser method of the community center is to relate them to each other and to itself, as departments of activity, so that duplication may be exhibited as social waste. The mere exhibition of this fact will induce some organizations voluntarily to disband or merge with others. The disease of overorganization, like some other diseases, only needs, for its cure, exposure to the fresh air. The community center furnishes the atmospheric condition of public opinion, in which unfit organizations will naturally die and the fit survive. The method is both gentle and just. It treats outgrown organizations as we always treat outgrown laws. We do not rescind them, we just let them die.

Just as fair competition in an open field furnishes the condition under which weak and less worthy organizations die, likewise it furnishes the condition under which strong and worthy ones thrive and expand. All they ask is a fair field and no favors. Their work speaks for itself. The civilian relief work of the Red Cross is a case in point. The Red Cross has enlarged the scope of its activities to include not only remedial but constructive work. Its policy is not only to cure but to prevent disease. Constructive work under the noble name and sign of the Red Cross in upbuilding the Nation's strength is so akin to the aims of the community center that they ought to cooperate in order to save needless social waste. They travel the same road; they ought to travel together as comrades. A few counties now employ Red Cross public health nurses. One State has recently passed a law which provides that each of its counties shall support out of public funds a nurse for town and country service.

It is only a question of time when a public health nurse will be attached to every community center.

The community center is the natural hub of a community wheel. It does not claim to be, it is necessarily, the comprehensive organization. But Red Cross work ought to be a department of the community center. They need each other. The community center is in a position to open just the kind of a door of opportunity which the Red Cross needs for the success of its work. There are large classes of people who have not enlisted in Red Cross work. And yet they have sons in the war and are making heroic sacrifices. They desire to do war work as they have always been willing to do relief and constructive work in times of peace. But they will not come to fashionable hotels or similar exclusive places. For obvious reasons they will come to the schoolhouse. If, therefore, Red Cross units were organized as departments of community centers, the Red Cross could enlist in its service a multitude now outside of its reach, and the Red Cross, because of its resources and its semiofficial character, could put the aims of the community center into operation. The opportunity for mutual service is such that it would be a statesman-like move if the Red Cross should devote time and money to the establishment of community centers as the most practical and economical instruments through which to expand its activities. A Red Cross unit ought to exist as a department of the community center in every school district of the United States.

The community-center movement and the Red Cross have the more reason for uniting their strength because the preventive work which they both aim to do, while more important, is less dramatic and usually attracts less popular support. But it is to this kind of work that the world gives its verdict of approval when the perspective of time enables it to distinguish between the big and the little. It is doubtful whether to-day one man in a thousand knows the names of the two generals who commanded the opposing armies in the Crimean War. Even when they are mentioned—Lord Raglan and Gen. Toddleben—they sound strangely unfamiliar. But there was one participant in that war whose name is now a household word—Florence Nightingale. Yet it was the generals who occupied the conspicuous positions; it was they who rode horseback and wore showy uniforms; it was they for whom the bands played and the soldiers applauded, while this Red Cross nurse did the apparently commonplace work of giving cups of cold water to wounded soldiers and easing the head of some homesick man as he lay dying. But these wounded men kissed her very shadow where it fell. It was a healing shadow. Such constructive work, even though it consists in little deeds of wayside kindness, is work for the ages. ~~Such con-~~structive work will be so needed to heal the wounds in t

industrial, and political world in the reconstruction days immediately ahead that the community center and the Red Cross would do wisely to unite their strength, not only to meet the Nation's present need but to assist in building a better sort of world. The task of the community-center movement is at once so difficult and so essential for the success of our experiment in democracy that it needs the assistance of every agency whose aims are similar to its own. In helping to create community centers the Red Cross would not only be serving itself but rendering a national service of the highest importance.

We are thus equipped with a wise principle always to be observed in the organization of a community center. It should adapt itself to the organizations already in the field and cooperate with them. It does not antagonize them but assists them to expand into something bigger. It may more speedily reach its goal if it would evolve out of some good existing organization. A community center never loses sight of its ultimate purpose, but it does not disdain to make use of the instruments which lie at its hand because they are imperfect. Lincoln applied this principle in the policy of reconstruction he had begun. Although he was bitterly criticised for it he defended it in the last speech he ever made. "Concede," he said, "that the new government of Louisiana is only, to what it should be, as the egg is to the fowl; we shall sooner have the fowl by hatching the egg than by smashing it."

#### THE HOUSE OF THE PEOPLE.

Whenever an idea gets itself embodied in concrete form, visible to the eye, it becomes the more potent and persuasive. The reason why the ancient and common use of symbols renders a distinct service to ideals is obvious. Sense impressions received through the eye gate are more vivid and permanent than those received through any other gate. We say, "in one ear and out the other"; we do not say, "in one eye and out the other." As an efficient means of propaganda, therefore, it is profoundly important that the community ideal should be embodied in a type of school building which represents it. If it is to be used as a house of the people, it ought to look like a house of the people. A community which plans to build a new schoolhouse or to adapt an old one to new community uses must consider two questions: First, what are its internal needs? Second, what style of building best serves these needs? The two questions are one and inseparable. They are related to each other like a man and his clothes or like ideas and the words which express them.

What are the internal needs and community uses which the new type of school buildings is required to meet? The essential needs may fairly be regarded as seven. They seem to require a large expenditure, but from the standpoint of community finances the

facilities here suggested obviously mean a wise economy, because they will prevent a needless duplication of buildings. They are used not only for school activities, but also for every variety of activity by youths and adults. These essential facilities are as follows:

1. *An assembly room*; to be used also for social games, folk dances, dinner parties, and gymnasium purposes.

2. *Classrooms*; to be so arranged that they may be used also for departmental activities of the community center.

3. *A workshop*; to be used also for vocational night classes and for mechanical experimental work as recreation.

4. *Library and reading room*; to be used also as a neighborhood club, conference room, and a clearing house for information.

5. *Kitchen and storeroom*; to be used also for household economics, community dinners, and cooperative exchanges.

6. *An open fireplace*; to be used for its spiritual value in creating good cheer and the neighborly sense of fellowship.

7. *Voting instruments*; to be erected permanently and used not only in the curriculum of the school and in public elections, but also as a symbol of the aim for which both the school and community center stand.

In addition to these seven practical and typical features of a community schoolhouse, there is one small luxury which properly may be regarded as a necessity. On the lawn of every community school should be erected a sundial. Its use is not the ordering of the day by the sundial rather than the time-table in order to stimulate good and honest work; nor is its use to act as a reminder of the need of leisure for personal growth, although it would serve both of these purposes. But its chief use is to be the symbol of an idea, without which a community center can not live. Charles Lamb said that if a sundial could talk, it would say of itself, "I count only those hours which are serene." It operates only when the sun shines. It illustrates the wisdom of looking on the bright, not the dark side of things; of being positive, not negative; of accentuating the resemblances, not the differences; of cultivating one's admirations, not one's disgusts. Without the practice of the principle of the sundial, the people of the community can never be mobilized for effective concerted action and national service.

In view of patriotic ideals like these which the school is designed to serve, the question concerning the style of building acquires a new and profound significance. What type of architecture most fittingly represents the institution most characteristic of the American ideal, the community schoolhouse? Two types have been generally suggested and widely used. They are the colonial and the Tudor or collegiate gothic. Both have real merits, but both have defects which seriously handicap their use for our purpose. The colonial has

simple, effective lines, but is cold, rigid, puritanic, and lacking in joy. Moreover, in its more elaborate forms, it was the common type used for the elegant mansions of southern aristocracy. Their pillared porticoes suggest a coach and four driving under them.

The Gothic type has the advantage of being more economical to build. Its chief merit originally was its "rudeness" or imperfection. The term "Gothic" was at first a term of reproach, but it acquired honor as men discovered that every great work ought to be imperfect if it is inspired by an unattainable ideal, as it ought to be. For this reason the lines in a Gothic building suggest aspiration. The distinguishing feature of Gothic architecture is that its beautiful ornaments, while always aspiring after an unattained perfection, always rest on the utilitarian principle of use. The flying buttress was not attached to a gothic cathedral as an ornament. It was put there to prop up the wall. The pinnacle on its top, ornamental as it is, was not put there as an ornament. It was put there as a weight to keep the prop from slipping off the wall.

In spite of the obvious and great merits of the Gothic type of building, which can and ought to be utilized in new forms, its defects should be frankly recognized. It has been associated in our thought with exclusive, cloistered seats of learning, like Cambridge and Oxford; it lends itself easily to indulgence in elaborate display of art for art's sake instead of for life's sake; and it is a permanent reminder of medieval ecclesiasticism, which is out of harmony with modern ideals of democracy.

It seems evident that the appropriate style of architecture to embody the democratic idea for which America stands remains still to be created. The best is yet to be. Ruskin says that:

Great nations write their autobiographies in three manuscripts—the book of their deeds, the book of their words, and the book of their art. Not one of these books can be understood unless we read the two others, but of the three, the only trustworthy one is the last.

What men embody in material form, invest large sums of money in, and lovingly seek to beautify, is a sure index of the value they place upon it. America has not yet written her autobiography in architecture, but she has started to write it, and has begun to express her appreciation of the indispensable importance of education to a democracy, as is seen in the handsome new school buildings now being erected in all parts of the country. A rare opportunity to render a patriotic service is now afforded to those architects who are also artists, if they have the courage to discard ancient conventional standards and create a new type to represent the American democratic idea.

In this process laymen in art have a marked responsibility, because they finally determine the kind of building to be erected. In a

democracy, art, like everything else, is profoundly affected by public opinion. Moreover, laymen can prevent professional architects from imposing any one conventional type of school building upon all communities. To do so would be deadly dullness. This will be prevented also by the need for adaptation in various sections of the country to conditions of climate, to materials available for use, and to the location of buildings. But while there should be variety of form, there are certain formative principles which must always distinguish a community type of building. It must be a democratic building; that is, it must be beautiful, because hunger for beauty is universal and beauty is of the highest educational value; it must be cheerful, for to dispense joy to all is a duty demanded of the democratic ideal; it must be in simple good taste, so that the average man will feel unoppressed and unembarrassed by it; it must be economical to build, and a beautiful building is necessarily more economical; it must be low, springing out of the soil, easy of access, wide spreading, ample for hospitality, for no man can be a democrat by himself; it must be an honest building; that is, its beauty must be organic. It is not artificial adornment superimposed from the outside, but inheres in the structure itself. It is like the true beauty of complexion, which does not depend on an external application of paint, but on the rude internal facts of digestion and circulation of blood. No beauty exists in nature unconnected with her useful processes. Likewise a democratic building is natural and honest. It has little or no ornament; its charm is an inborn fitness and proportion. No canon of taste is more holy than fitness.

The style of architecture which embodies these essential principles of a democratic building more nearly perhaps than any other is the new Santa Fe type, which is a combination of the old mission and adobe style in such a way as to justify us in regarding it as a real American product. It is well illustrated in the Alhambra Consolidated School near Phoenix, Ariz. The artist-architect who has courage to escape from slavery to the precedents of yesterday and the stupid imitations of outgrown standards, and who will take for his motto "Not one thing that you do not know to be useful and believe to be beautiful," has to-day the opportunity to assist the people to create a new representative American architecture, fitted to express their new discovery of the need for a community schoolhouse. To build a real house of the people is a patriotic service of the highest order. Fletcher B. Dresslar, in his able and comprehensive bulletin on American Schoolhouses, very appropriately reminds the builders of one of these temples of democracy that "Whoever undertakes to build a schoolhouse to meet and foster these ideals ought to approach his task with holy hands and a consciousness of the devotion which it is to typify."

**FREE TRADE IN FRIENDSHIP.**

This, then, is the writer's understanding as to what a community center is and how to organize it, briefly stated. To treat in brief a subject so big with meaning for the common welfare, one needs what the poet Keats calls "negative capabilities;" he must know what to leave in the inkstand, unsaid.

But after the most efficient methods of organization have been discovered and applied, there is one word which must never be left unsaid or unheeded. Organization is to the thing to be done what a shell is to an egg. And while a shell is necessary for the convenient handling of eggs, the shell is not the egg. The egg of a community center, its heart and soul, is an idea, a spiritual purpose. To sacrifice its soul to efficiency is like selling the egg for the shell.

If Ruth's sickle, used in the Hebrew republic, were placed by the side of the McCormick reaper in a world's fair, our progress in mechanical efficiency would be dramatically exhibited. But how about Ruth herself? If she appeared among the women at the fair, would our superiority in that branch of manufacture be so apparent? Is it Ruth or only her sickle we have improved? Almost every nation has at its beginning some formative principle which shapes its organization and determines its contribution to the world's welfare. In Palestine it was religion; in Greece it was culture; in Rome it was law; in America it is what? Her birth and history clearly indicate that America's high mission is the enfranchisement of manhood, the development of the individual. This purpose is the soul of the community center movement.

The community ideal is fittingly expressed in a high relief by Frank F. Stone, who illuminates it by contrasting it with its opposite ideal. In this work of art three figures are represented. On the right is the figure of a well-fed, self-centered man. The expression on the face is a freezing scorn and utter disdain of his fellow men. The crown, miter, money bag, sword, and ermine robe which he holds in his hands, all indicate that he is an egotist, who through wealth, the assumption of divine rights, the accident of birth, or the sword of force seeks power, prestige, and advantage over others. Opposite him is the type of a true democrat, who finds life not insipid, but inspiring. He is in the act of scaling the difficult heights of human achievement through his own unaided efforts. But he is unwilling to rise alone, and as he fixes his eyes on the heights which beckon him, he reaches down a helping hand to raise a weaker brother with himself. No work of art could more clearly represent the community center ideal, together with the ideal which it seeks to replace. The only effective way to destroy an unworthy ideal is to replace it with a better one.



The community center aims to realize its ideal by promoting free trade in friendship among all individuals and classes of the community. This is its most efficient means for producing results, because men are more influenced through their feelings than their intellects. This is the reason why "poets are the unacknowledged legislators of the world." For the same reason friendship is the chief solvent of social and industrial difficulties. When David Grayson sat at dinner with a factory owner, Mr. Vedder, and was helping him to settle a strike then in operation, Mr. Vedder asked him what kind of social philosopher he called himself. "I do not call myself by any name," said Grayson, "but if I chose a name, do you know the name I would like to have applied to me?" "I can not imagine," was the answer. "Well, I would like to be called 'an introducer.' My friend, Mr. Blacksmith, let me introduce you to my friend, Mr. Plutocrat. I could almost swear that you are brothers, so near alike you are. You will find each other wonderfully interesting, once you get over the awkwardness of the introduction." "It is a good name," said Mr. Vedder, laughing. "Its a wonderful name," said Grayson, "and its about the biggest and finest work in the world—to know human beings just as they are and to make them acquainted with one another just as they are. Why, its the foundation of all the democracy there is or ever will be. Sometimes I think that friendliness is the only achievement of life worth while, and unfriendliness the only tragedy." The community center is a factory for the manufacture of friendship, and the chief business of a community secretary is to be "an introducer."

Just as the mere statement of a problem is half of its solution, likewise free trade in friendship among men would break down half the barriers which separate them, because it would remove the chief cause of their strife. For a community to carry on its work without cultivating the spirit of friendship is like drawing a harrow over frozen ground. This is so essential to success that one of its chief aims should be to promote free trade in friendship by producing a collection of community center songs, so that the people could sing the sentiment as it is expressed in such poems as Richard Burton's—

If I had the time to find a place  
 And sit me down full face to face,  
 With my better self, that can not show  
 In my daily life that rushes so:  
 It might be then I would see my soul  
 Was stumbling still toward the shining goal,  
 I might be nerved by the thought sublime—  
 If I had the time!

If I had the time to let my heart  
 Speak out and take in my life a part,  
 To look about and to stretch a hand  
 To a comrade quartered in no-luck land;  
 Ah, God! If I might but just sit still  
 And hear the note of the whippoorwill,  
 I think that my wish with God's would rhyme—  
 If I had the time!

If I had the time to learn from you  
 How much for comfort my word could do;  
 And I told you then of my sudden will  
 To kiss your feet when I did you ill;  
 If the tears aback of the coldness feigned  
 Could flow, and the wrong be quite explained—  
 Brothers, the souls of us all would chime,  
 If we had the time!

The community center seeks to promote friendship, not only in local communities but also among communities, and not only among communities in a single state or nation, but among the larger communities of the nations themselves, by stimulating devotion to common ideals, for there can be no friendship unless there is similarity of aims and purposes. There is, perhaps, no more accurate or beautiful expression of that which separates and unites national communities than is to be found in the following letter sent to America by a pupil in Paris and made public by John H. Finley:

It was only a little river, almost a brook; it was called the Yser. One could talk from one side to the other without raising one's voice, and the birds could fly over it with one sweep of their wings. And on the two banks there were millions of men, the one turned toward the other, eye to eye. But the distance which separated them was greater than the stars in the sky; it was the distance which separates right from injustice.

The ocean is so vast that the sea gulls do not dare to cross it. During seven days and seven nights the great steamships of America, going at full speed, drive through the deep waters before the lighthouses of France come into view; but from one side to the other hearts are touching.

Manifestly the task of the community center is complex and difficult. Our business, however, is not to debate the possibility of reaching the goal, but to make a start toward it. When Socrates was asked, "How shall we get to Mount Olympus?" he answered, "By doing all your walking in that direction." While we keep Mount Olympus in sight to give us direction, we must recognize that the amount of possible progress toward it is determined by conditions as we find them. Our choice does not lie between the ideal and the actual. We must always choose both. We must know not only the goal but the road to it. Our practical problem is to desire a working plan which includes what is both ideally desirable and actually possible. If we are ever to arrive at Mount Olympus, we must start

from where we are, we must take things "as is;" we must "accept the universe" and try to fashion it as best we may with patience and good humor.

Although the road to the community center goal is difficult, nevertheless the hope of ultimate success has the best of guarantees. It is buttressed by unescapable necessity. The solid basis on which this hope rests is the lack of self-sufficiency. On this fact society itself is founded. On this principle, Plato constructed his republic. No community nor nation, as well as no individual, is self-sufficient. This applies both to the supply of physical necessities and the supply of food for minds and souls. No nation, as no man, can long live a Robinson Crusoe type of existence. They have a community of interests. All men are political animals. They must have with each other some kind of business, either good or bad. The community center movement merely aims to make this business good instead of bad. The obvious sanity of this policy is the guarantee of its ultimate triumph.

While a lack of knowledge concerning both the spirit and method of democracy makes the road to this goal a difficult one to travel, yet the rewards by the way are always in proportion to the hardships. The satisfaction of working for a cause bigger than one's private advantage is never lost, whatever be the fortunes of the cause itself. Eric, a dying soldier boy in France writing his last letter to his father and mother, well expressed both the satisfaction and its cause when he said: "To a very small number it is given to live in history; their number is scarcely 1 in 10,000,000. To the rest it is only granted to live in their united achievements." This is the experience not only of vision-seeing, chivalrous youth who have not yet exchanged their ideals for their comforts, but it is the experience also of a mature man like Thomas Jefferson. When the long shadows fell across his life and he came to write his epitaph, this is what he wrote:

**Here was buried  
Thomas Jefferson  
author of the  
DECLARATION  
of  
AMERICAN INDEPENDENCE  
of the  
Statute of Virginia  
for  
Religious Freedom  
and father of the  
University of Virginia.**

It is highly significant that he never mentions the fact that he had been governor of Virginia, Secretary of State, minister to France, twice President of the United States. That is to say, he never mentions any personal rewards, anything that the people had done for him, but only what he had done for the people, only the service which his genius and loyalty had rendered to the community causes of democracy and education. This alone is what he cared to remember with joy and pride. This is why the community-center movement is justified in claiming the major loyalty of all soldiers of the common welfare.

## **PART III.**

### **A SUGGESTED CONSTITUTION.**

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The following is the constitution prepared by the writer for a community center in Washington, D. C., and is reproduced here as a suggestion to other communities:

#### **PREAMBLE.**

We, the people of the Wilson Normal Community of the City of Washington, D. C., in order to secure the advantages of organized self-help, to make public opinion more enlightened and effective, to promote the education of adults and youths for citizenship in a democracy, to organize the use of the public school as the community capitol, to foster a neighborhood spirit through which the community may become a more efficient social unit, to prevent needless waste through the duplication of social activities, to engage in cooperative enterprises for our moral and material welfare, and to create a social order more in harmony with the conscience and intelligence of the Nation, do ordain and establish this constitution.

#### **ARTICLE I.—NAME.**

The name of this organization shall be the Wilson Normal Community Association, and its headquarters the Wilson Normal School Building.

#### **ARTICLE II.—LOCATION.**

The community shall be defined as follows: Beginning at Fourteenth and W Streets, thence north on the east side of Fourteenth Street to Monroe Street, thence east on the east side of Monroe Street and Park Road to Georgia Avenue, thence south on the west side of Georgia Avenue to Irving Street, thence east on the south side of Irving Street to Soldiers' Home, thence south on west side of Soldiers' Home, McMillan Park, and Reservoir to College Street, thence west on north side of College Street and Barry Place to Tenth Street, thence south on the west side of Tenth Street to W Street, thence west on the north side of W Street to Fourteenth Street, the place of beginning.

#### **ARTICLE III.—MEMBERS.**

The members of the association shall be all the white adult citizens of this community, both men and women. A limited number of nonresident members may be received into membership, provided they are not registered members of any other organized community. Organizations now in operation which are nonpartisan, nonsectarian, and whose aim is the public welfare, such as

"Citizen associations," "Home and school leagues," "Red Cross chapters," "Women's clubs," "College settlements," "Housekeepers' alliances," desiring to retain their name and identity for the sake of cooperation with other branches of similar organizations, may become departments of this association. There shall be no suggestion of superiority or inferiority among the departments. The members of each department shall have the same standing as all other members.

#### ARTICLE IV.—OFFICERS.

The association shall elect by ballot from its own members a board of directors, or community council, which shall be both a legislative and an executive body. It shall consist of not less than 6 nor more than 15 members. They shall be elected for a period of three years, excepting for the first year, when one-third of the number shall be elected for one year, one-third for two years, and one-third for three years.

The chairman of the committee in charge of each department of the association shall be a member of the board of directors. A chairman may be appointed by the board or selected by the department itself and confirmed by the board. Chairmen shall have the right to select the members of their own committees.

The community secretary, whose public election is provided for by the board of education, shall be a member of the board of directors and a member ex officio of all committees. It shall be his duty to exercise general supervision over all the activities of the association, and to nominate, by and with the consent of the directors, all assistant secretaries. They shall have the right to attend all meetings of the board and take part in the discussions, but shall have no vote.

As soon after the annual election as convenient the directors shall meet to organize, and shall elect from their own number a president, vice president, and a secretary-treasurer, who shall perform the duties usually performed by such officers, and who shall also be the officers of the association.

#### ARTICLE V.—DEPARTMENTS.

The board of directors is authorized to organize and operate departments of activity, such as forum, civics, recreation, home and school, buying club, and community bank, whose activities shall be supervised and whose accounts shall be audited by the board of directors.

1. Forum Department: The committee in charge of this department shall arrange for public meetings, at such times as the association may decide, for the free and orderly discussion of all questions which concern the social, moral, political, and economic welfare of the community. It shall select a presiding officer for such meetings, secure speakers, suggest subjects, and formulate the method of conducting discussions.

2. Recreation Department: The committee in charge of this department shall provide and conduct games, dances, community dramas, musicals, motion pictures, and shall promote all similar play activities, with a view to increasing the joy, health, and good fellowship among both adults and youths.

3. Civics Department: The committee in charge of this department shall provide the members with the means of securing information concerning politics, local, national, and international; it shall stimulate a more intelligent interest in government by the use of publicity pamphlets; it shall suggest ways in which the members may contribute to the economic and efficient administration of the city's affairs; it shall provide courses of studies for young men and women

as a preparation for citizenship, and devise methods of organizing the youth into voluntary, cooperative, and constructive forms of patriotic service.

4. The Home and School Department: The committee in charge of this department shall seek to promote closer cooperation between the school and home, the teachers and parents; it shall aim to improve the school equipment, to secure more adequate support and better housing conditions for teachers; it shall organize and conduct study classes for youths and adults; it shall provide such ways and means or remove such obstacles as may be necessary to enable all children to remain in school until they have finished the grammar grades, whether these obstacles be the kind of studies now pursued in school, the home conditions of the children, or the economic conditions of the community.

5. Buying Club Department: The committee in charge of this department shall organize and operate in the school a delivery station for food products with a view of decreasing the cost of living; it shall establish a direct relation between the producer and consumer in order to eliminate wastes; it shall seek to safeguard the people's health by furnishing the purest food obtainable; it shall aim to moralize trade by giving full weight and measure and substituting public service for private exploitation; it shall eliminate debt by asking for no credit and giving none; it shall practice economy and equity in order to secure a larger return to the producer and decrease the cost to the consumer.

An annual fee shall be required of all members of the buying club, payable quarterly in advance, to defray operating expenses, the amount of the fee to be determined by the committee, and it shall be decreased or increased as the number of members and volume of business warrant. All members shall secure their goods at the net wholesale cost price.

Goods shall be sold only to members of the buying club. Membership in the buying club is open only to members of the association and only to those members who are depositors in the community bank.

The buying club shall set aside annually a sum equal to 2 per cent of the amount of its sales, to be used by the association for the purpose of educating its members in the principle and practice of cooperation, until public appropriations are sufficient to provide the means for such education.

The club shall set aside annually a sum equal to 1 per cent of the amount of its sales as a reserve fund to cover unexpected losses.

The committee in charge of the buying club shall serve without compensation but may employ one or more executives to conduct the business of the club, who shall receive compensation for their services, the amount of which shall be fixed by the committee, but the amount shall be determined, as far as possible, on a percentage basis according to service rendered.

All checks, drafts, or notes made in the name of the club shall be countersigned by the chairman of the directing committee. The executive in charge of the buying club shall be required to give a surety bond.

6. Community Bank Department: The committee in charge of this department shall organize and conduct a credit union bank for members of the association in order to capitalize honesty and to democratize credit, and to multiply the efficiency of their savings by pooling them for cooperative use. It shall be known as the "Community Bank." It shall receive savings deposits both from children and adults and shall make loans. It shall, if possible, be a part of the curriculum of the school, at least as regards deposits of children. The committee in charge shall serve without compensation, but may employ one executive to conduct its business who shall be required to furnish a surety bond.

The bank shall make loans only to individual members of the association and to the buying club for productive purposes, but no loan shall be made to any member of the committee in charge of the bank. Deposits may be received from those other than members.

The bank shall issue no capital stock, but shall charge entrance fees, which shall be used as a reserve fund and returned to depositors when they withdraw from membership.

The bank may make small short-time loans secured only by the character and industry of the borrower. It may make long-time loans, secured by mortgage, character, and industry, to young men and women for the purpose of helping them to secure houses in which to start homes, and the payment of such loans may be made on the amortization plan.

The rate of interest charged for all loans shall be 5 per cent. The amount of interest allowed on deposits shall be the net profit after operating expenses are paid. The bank shall use no other bank as a clearing house which is not under the supervision of the United States Government. All loans shall be made by check and all such checks shall be countersigned by the chairman of the directing committee.

An amount equal to one-half of 1 per cent of its deposits shall be set aside as a reserve fund. An amount equal to 10 per cent of its deposits shall be invested in Federal Farm Loan Bonds, Liberty Bonds, or in other Federal, State, or municipal bonds.

The community bank shall be operated not on the principle of unlimited, joint, and several liability of its members, but it shall have the right to demand pro rata payments from them to meet any loss through unpaid loans, provided the reserve fund is not sufficient to cover such losses.

#### ARTICLE VI.—COOPERATION.

There shall be no dues for membership in the community association, the dues having already been paid through public taxation; but the association, by voluntary subscription and in other ways, may raise funds to inaugurate or support its work if the amount received from public appropriation is insufficient to meet its needs.

The association may unite with other similar associations in the District of Columbia to form a community league, in order to conduct a central forum or cooperate with each other for any other purpose which may serve their common welfare.

The association adopts the policy of cordial cooperation with the board of education and provides that a designated member of the school board may be a member ex officio of its board of directors. He may attend any of its meetings, take part in the discussions, and vote on all questions.

#### ARTICLE VII.—MEETINGS.

The board of directors shall hold monthly meetings at such times as they may determine. All regular monthly meetings of the board shall be open meetings. When a vacancy occurs, through death or otherwise, the board may fill the vacancy until the next annual meeting. If any director shall be absent from three successive stated meetings without excuse, such absence shall be deemed a resignation.

Quarterly meetings of the association shall be held on the second Tuesday of January, April, July, and October. The April quarterly meeting shall be the



annual meeting to elect officers, hear reports from all departments, and to transact such other business as may be necessary.

This constitution may be amended at any annual meeting or at any quarterly meeting if previous notice of the proposed amendment is given. In all elections the preferential ballot may be used with reference both to officers and measures; the initiative, referendum, and recall may be employed in such manner as the association itself may determine.

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### AN OUTLINE FOR A CONSTITUTION.

The following is a digest of the preceding constitution for those communities which may prefer a briefer form:

#### ARTICLE I.—NAME.

This association shall be known as The Community Center Association of School District No. \_\_\_\_\_, County of \_\_\_\_\_, State of \_\_\_\_\_, and its headquarters the \_\_\_\_\_ schoolhouse.

#### ARTICLE II.—OBJECT.

Its object shall be to mobilize the people of this community for national service and organized self-help, to equip its members for citizenship in a democracy, to prevent needless waste through the duplication of activities, and to create a social order in harmony with the conscience and intelligence of the Nation.

#### ARTICLE III.—MEMBERS.

Its members shall be all adult citizens of the district. Any organization which is nonpartisan and nonsectarian and whose aim is the public welfare may become a department of the association.

#### ARTICLE IV.—OFFICERS.

The association shall elect not less than 9 and not more than 15 directors, who shall constitute the community council. The council shall elect from its own members a president, vice president, and secretary-treasurer, who shall also be the officers of the association. The chairman in charge of any department of work shall be a member of the community council.

#### ARTICLE V.—COMMUNITY SECRETARY.

The community council may employ an executive or business manager to carry on its work, who shall be paid either from public appropriations or by volunteer contributions.

#### ARTICLE VI.—DEPARTMENTS.

The association shall organize and conduct whatever departments of activity it deems necessary to meet present and permanent needs, both local and national, such as forum, civics, recreation, home and school, buying club, and community bank.

## ARTICLE VII.—FINANCES.

There shall be no dues for membership in the association, the dues having already been paid through public taxation. But when necessary it may raise, through voluntary subscriptions and in other ways, the funds required to conduct its activities.

## ARTICLE VIII.—MEETINGS.

The association shall hold quarterly meetings, one of which shall be the annual meeting to hear reports and elect officers. The community council shall hold regular monthly meetings, which shall be open to the public. The departments shall be free to hold as many meetings as may be necessary.



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, NO. 12

MONTHLY RECORD  
OF CURRENT EDUCATIONAL  
PUBLICATIONS

APRIL, 1918



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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CONTENTS.—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special methods of instruction—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—School administration—School management—School architecture—School hygiene and sanitation—Physical training—Boy scouts—Child welfare—Religious education—Manual and vocational training—Vocational guidance—School gardens—Commercial education—Professional education—Reeducation of war invalids—Education of women—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications.

## NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of its publication.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

## PROCEEDINGS OF ASSOCIATIONS.

428. **Pennsylvania state educational association.** Proceedings of the sixty-eighth meeting, held at Johnstown, December 26-29, 1917. *Pennsylvania school journal*, 66: 275-335, January 1918.

Contains: 1. L. E. McGinnes: A phase of modern education for girls—the home school, p. 282-85. 2. C. A. Herrick: Growth and status of commercial education in America, p. 287-90. 3. J. G. Becht: The place of physical education in the schools and suggestions concerning a course for different types of schools, p. 292-95. 4. F. C. Morgan: The American junior Red cross, p. 296-98. 5. C. R. Dooley: Corporation schools, their work and their co-operation with the public schools, p. 302-305. 6. William McAndrew: Efficiency of schools through vocational guidance and placement, p. 306-309. 7. John McDowell: Responsibility of the schools for the development of Christian character for world leadership, p. 310-12. 8. M. G. Brumbaugh: Taxation and the schools, p. 313-14. 9. A. F. West: Our educational birthright, p. 327-30.

### *Department of County Superintendents.*

10. T. A. Bock: Vocational high school in rural districts, p. 349-52. 11. E. J. Tobin: The school-home project outline, p. 353-54. 12. J. H. Landis: How may the superintendent be most helpful in visiting the schools? p. 354-57. 13. E. M. Rapp: Standard rural schools, p. 357-59. 14. E. J. Tobin: Work of country life directors, p. 360-62.

### *Department of City and Borough Superintendents.*

15. L. P. Dennis: City high school and agricultural production, p. 372-74. 16. J. W. Bancroft: Coordinating medical inspection, physiology, hygiene, and physical training, p. 374-77.

### *Graded School Department.*

17. J. D. Ripple: Supervised study, p. 378-81. 18. Ida J. Nieman: Expressive activities in the elementary school, p. 381-82.

## EDUCATIONAL HISTORY AND BIOGRAPHY.

429. **Bowdoin college.** Addresses delivered at public services at Bowdoin college, October twenty-fourth, nineteen hundred and seventeen—and other tributes to the memory of President William DeWitt Hyde. New Brunswick, Me., Bowdoin college, 1917. 37 p. front. (port.) 8°.
430. **Boyd, William.** Greek education. *Educational news* (London) 43: 70-71, 82-83, February 1 and 8, 1918.  
Ancient Greek educational ideals discussed.
431. **Graves, Charles A.** Martin Dawson: a friend of education and of the University of Virginia. *Alumni bulletin of the University of Virginia*, 11: 15-29, January 1918.  
The life of Martin Dawson and his service to education.

## CURRENT EDUCATIONAL CONDITIONS.

*United States.*

432. **Ashley, R. L.** War problems of the schools. *Sierra educational news*, 14: 126-29, March 1918.  
Opportunities for reorganization and some possible improvements arising from the war.
433. **Crumpacker, H. C.** The war and our schools. *Northwest journal of education*, 29: 9-12, March 1918.  
Some of the problems that the school will have to face on account of the war.
434. **Educational administration and supervision**, vol. 4, no. 1, January 1918. (Education and the war.)  
Contains: 1. G. D. Strayer: The administration of public education in war time, p. 1-9. 2. L. D. Coffman: The war and the curriculum of the public schools, p. 11-22. 3. Alexander Inglis: The war and secondary education, p. 23-32. 4. David Snedden: The war and vocational education, p. 33-40. 5. W. W. Charters: The war and methods of instruction, p. 41-48. 6. W. C. Bagley: The training of teachers as a phase of democracy's educational program, p. 49-52.
435. **Georgia. Department of education.** [Educational surveys of the counties of Georgia] by M. L. Duggan, rural school agent. No. 15-21. [Atlanta?] 1917-18. 7v. illus., ports. maps. 8°.  
CONTENTS.—15. Brooks County.—16. Hart County.—17. Heard County.—18. Spalding County.—19. Towns County.—20. Jones County.—21. Wilkinson County.
436. **Jones, Robert W.** Manufacturing democrats. *South Dakota educator*, 31: 7-9, March 1918.  
A comparison of the educational methods of Germany and America.
437. **Levine, Albert J.** The new education and the war. *School*, 29: 257, 265, 273, 283, February 21, 28, March 7, 14, 1918.  
"Educational needs of the day and the future as seen by the class teacher conscious of the defects of the conventional curriculum and methods . . . Advocates the junior high school and its attending régime."
438. **Los Angeles, Cal. City school district.** Los Angeles city schools and the war. Report on the war organization of Los Angeles city schools from the beginning of the war to February 1, 1918. 84 p. 8°. (City school publication no. 10)
439. **MacCracken, John H.** A national department of education. *Nation*, 106: 256-57, March 7, 1918.  
Advocates the establishment of a national department of education, with a secretary entitled to a seat in the President's cabinet. Discusses the educational activities of the Government.
440. **Smith, Montgomery C.** Importance of training now to prepare for great post-war responsibilities. *American education*, 21: 357-58, March 1918.
441. **Smith, Payson.** Some present-day educational obligations. *Journal of education*, 87: 257-58, March 7, 1918.  
Abstract of an address at the Newton (Mass.) vocational school.  
The obligations upon boys and girls to remain in school.

442. **Wood, George A.** The world crisis. Ohio educational monthly, 67 : 96-101, March 1918.

Discusses the share school men and women of the state have in the problem of educating the people to an understanding of the meaning and needs of our present and our future situation. The subject is discussed under the following headings: Dynamic enthusiasm; Patriotic education of the community at large; Increased participation of the schools in war service; Patriotic education in the schools; Cooperation with influential persons and organizations; The exercise and encouragement of intelligently loyal utterances; and Need for organization—Superintendents natural leaders.

*Foreign Countries.*

443. **Cestre, C.** L'instruction publique et la guerre en Angleterre. Revue pédagogique, 71 : 539-62, December 1917.

Discusses the movement for educational reform in England, with special reference to Mr. Fisher's Education bill.

444. **Cooper, Clayton Sedgwick.** The Brazilians and their country. New York, F. A. Stokes company [1917] xvi, 403 p. plates, map. 8°.

Contains: Chapter VIII, Education, p. 100-17. Chapter XXIV, Languages, libraries and literature, p. 342-55. Chapter XXVII, The newspaper as an international medium, p. 378-91.

445. **Delany, Mark A.** Jean-Robert Flambard, potache. London, G. Bell and sons, ltd., 1917. 119 p. illus. 12°.

An account of the experiences of a boy attending a French lycée, written to introduce French student life to English boys after the manner of Tom Brown at Rugby.

446. **Dennett, Tyler.** The missionary schoolmaster who began with outcastes, now teaches the Rajah's sons. Asia, 18: 211-17, March 1918. illus.

Describes some conspicuous instances of successful achievement during the generation just past by missionary schoolmasters in the Orient.

447. **Forsant, Octave.** School children of France. Atlantic monthly, 121: 401-7, March 1918.

A further record from Rheims, comprising compositions by four pupils relating their experiences during the bombardment of the city, and extracts from M. Forsant's journal of life at Rheims.

448. **Hopkinson, Sir Alfred.** The education bill. Contemporary review, 113 : 152-60, February 1918.

Says that the two changes proposed which will most directly affect the industries of England are: (1) The raising of the age for full compulsory attendance at school to 14 years; (2) the compulsory attendance of "young persons" at continuation schools up to the age of 18.

449. **King-Harman, M. J.** British boys; their training and prospects. London, G. Bell & sons, 1917. 254 p. front. 12°.

450. A liberal education for all. Parent's review (London) 24 : 82-134, February 1918. Papers read at the Parent's educational union, London, January 23, 1918.

**EDUCATIONAL THEORY AND PRACTICE.**

451. **Alexander, F. Matthias.** Man's supreme inheritance; conscious guidance and control in relation to human evolution in civilization. With an introductory word by Prof. John Dewey. New York, E. P. Dutton & company [1918] xvii, 354 p. 12°.

This whole book is concerned with education in its larger sense. The writer also touches on educational problems in their narrower sense, especially in his criticisms of repressive schools on the one hand and schools of "free expression" on the other.

452. **Brinaley, John.** Ludus literarius; or, The grammar schoole; edited with introduction and bibliographical notes by E. T. Campagnac. Liverpool, The University press; London, Constable & co. ltd., 1917. xxxix, xxvii, 363 p. 8°.

A reproduction of the 1627 edition of this work.

453. **Morgan, Arthur E.** Education: the mastery of the arts of life. Atlantic monthly, 121 : 337-46, March 1918.

Says that in the school of the future the mastery of the arts or occupations of life will be the aim and aim of education. The method of education will be the practice of those arts.

454. **Willett, G. W.** Permanence of pupil interests. *School and society*, 7 : 325-30, March 16, 1918.

Results of an investigation to determine how long a high school boy and girl will be interested in one subject, and to find out if the occupation which appeals to the youngster of to-day will appeal with equal strength one year hence.

### EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

455. **Austin, B. F.** Rational memory training. London, W. Rider & son, limited, 1917. 187 p. 12°.

A series of articles on memory, its practical value, its phenomenal powers, its physiological basis, the laws which govern it, the methods of improving it, attention, association and arrangement of ideas, causes of defective memory, mnemonics, the use and abuse, etc., etc., with hints and helps in memorizing figures, lists of words, prose and poetic literature, new languages, etc.

456. **Gates, Arthur Irving.** Recitation as a factor in memorizing. New York, The Science press [1917] 104 p. tables, diagrs. 8°. (*Archives of psychology*, no. 40. *Columbia university contributions to philosophy and psychology*, vol. XVI, no. 1)

457. **Hug-Hellmuth, H. von.** A study of the mental life of the child. *Psychanalytic review*, 5 : 53-92, January 1918.

Translated from the German by J. J. Putnam and Mabel Stevens. To be continued.

458. **Lyon, Darwin Oliver.** Memory and the learning process. Baltimore, Warwick & York, inc., 1917. 179 p. tables. 8°.

459. **Zigler, Michael J.** The child and school entrance. *Pedagogical seminary*, 25 : 23-57, March 1918.

Bibliography: p. 54-57.

Discusses (1) Physiological development, (2) Mental development, (3) Pathology, morbidity, and mortality, and (4) Pedagogical and hygienic considerations.

### EDUCATIONAL TESTS AND MEASUREMENTS.

460. **Boston.** Department of educational investigation and measurement. Arithmetic; the value to the teacher, to the principal, and to the superintendent of individual and class records from standard tests. Boston, Printing department, 1917. 83 p. tables, diagrs. 8°. (*Bulletin XIII. School document no. 22, 1917, Boston public schools*)

461. **Breed, Frederick S.** The comparative accuracy of the Ayres handwriting scale, Gettysburg edition. *Elementary school journal*, 18 : 458-63, February 1918.

An experiment devised to measure the comparative accuracy of the revised Ayres handwriting scale, called the Gettysburg edition, and the three-slant edition published by the same author.

462. **Heckert, J. W.** The Cleveland survey tests in arithmetic in the Miami valley. *Elementary school journal*, 18 : 447-57, February 1918.

The object of the tests was to ascertain the quality of work done along abstract lines (1) in the several systems individually, (2) in all the city and village schools as compared with all the one-room rural schools, and (3) in the city, village, and rural school as compared with the Cleveland schools.

463. **Jones, Edward Safford.** The influence of age and experience on correlations concerned with mental tests. Baltimore, Warwick & York, inc., 1917. 89 p. 12°. (*Educational psychology monographs*, no. 22 in the series, ed. by J. R. Angell)

464. **King, Irving, and M'Crory, James.** Freshman tests at the State university of Iowa. *Journal of educational psychology*, 9 : 32-46, January 1918.

"Seven tests . . . were given to 544 freshmen. Correlations of the test scores with each other and with class standing are presented, and individual cases are described."



465. **Koos, Leonard V.** The determination of ultimate standards of quality in handwriting for the public school. *Elementary school journal*, 18 : 423-46, February 1918.

The writer says his article constitutes "an illustration of the method of standard-setting which looks into the social need for an ability. It grows out of an investigation into the quality of handwriting actually used and demanded in purely social and in vocational activities." Illustrated with graphs.

466. **McConaughy, James L.** The worship of the yardstick. *Educational review*, 55 : 191-200, March 1918.

Criticises the efficiency tests so much in vogue in modern education; the over-emphasis laid on vocational education, etc. Says that there is a danger to-day of making teaching mechanical and machine-like.

467. **Maxfield, Francis N.** Some mathematical aspects of the Binet-Simon tests. *Journal of educational psychology*, 9 : 1-12, January 1918.

References, p. 12.

468. **Pintner, Rudolf, and Anderson, Margaret M.** The picture completion test. Baltimore, Warwick & York, inc., 1917. 101 p. tables, diagrs. 12°. (*Educational psychology monographs*, ed. by Guy Montrose Whipple, no. 20)

469. **Porteus, S. D.** The measurement of intelligence: six hundred and fifty-three children examined by the Binet and Porteus tests. *Journal of educational psychology*, 9 : 13-31, January 1918.

"The author compares the performance of normal and feeble-minded children in the Porteus maze tests, points out the characteristic defects revealed by them, and makes a detailed study of the relation between Porteus scores and Binet mental age. Interesting sex differences are brought to light, and results are given of the use of the tests with delinquents and with deaf and dumb children."

470. The Stanford revision and extension of the Binet-Simon scale for measuring intelligence, by Lewis M. Terman, Grave Lyman, George Ordahl, Louise Ellison Ordahl, Neva Galbreath, and Wilford Talbert, assisted by Harbert E. Knollin, J. H. Williams, H. G. Childs, Helen Trost, Richard Zeidler, Charles Waddle, and Irene Cuneo. Baltimore, Warwick & York, inc., 1917. 179 p. tables, diagrs. 12°. (*Educational psychology monographs*, no. 18)

471. **Wallin, J. E. Wallace.** A further comparison of scattering and of the mental rating by the 1908 and 1911 Binet-Simon scales. *Journal of delinquency*, 3 : 12-27, January 1918.

Binet-Simon tests on feeble-minded children.

472. **Willing, Matthew H.** The measurement of written composition in grades IV to VIII. *English journal*, 7 : 193-202, March 1918.

The tests made in written composition in connection with the school surveys of Denver, Colo., and Grand Rapids, Mich.

#### SPECIAL METHODS OF INSTRUCTION.

473. **Collette, A.** Les projections cinématographiques dans l'enseignement. *Revue pédagogique*, 71 : 601-10, December 1917.

474. **Engel, E. F.** The laboratory method in theory and practice. *Modern language journal*, 2 : 215-26, February 1918.

Method of teaching German.

475. **Sumatine, David B.** A comparative study of visual instruction in the high school. *School and society*, 7 : 235-38, February 23, 1918.

Gives the results of a memory test given to determine the value of the motion picture as a form of instruction.

#### SPECIAL SUBJECTS OF CURRICULUM.

476. **Andrews, Arthur.** Oral expression: its place in the cycle of learning. *English journal*, 7 : 118-24, February 1918.

Says that oral expression is a means of giving order and stability to our ideas; it is completing the learning process.

477. **Barber, Fred D.** The reorganization of high-school science. School science and mathematics, 18 : 247-62, March 1918.
478. **Barnes, Frank C.** Shall German be dropped from our schools? Modern language journal, 2 : 187-202, February 1918.  
A symposium of opinions of men of prominence in the United States—those engaged in business, science, letters, and administration.
479. **Beebe, Clara H.** Lesson plan in geography relating to the Great war. Normal instructor and primary plans, 27 : 38-39, 67, April 1918.  
A lesson plan of ten lessons relating to Germany as taught in 6B grade in the Robert Treat school, Newark, N. J.
480. **Bonner, H. B.** Teaching thrift in the schools. Normal instructor and primary plans, 27 : 15-16, 72, April 1918.  
In conclusion the writer says: "Teach the child how to earn money honestly, how to invest it wisely, how to sacrifice for the common good, and how to utilize every moment of his leisure time, and you will have fulfilled one of the greatest missions of the public school—the teaching of thrift."
481. **Boynton, Percy H.** Literature in the light of the war. English journal, 7 : 77-86, February 1918.  
Read before the National council of teachers of English, November 30, 1917.
482. **Brown, H. A.** The teaching of Latin. Wisconsin journal of education, 50 : 37-40, February 1918.  
The results of an extended investigation of Latin ability in secondary schools which has been conducted during the past four years and which is to be published under the title "An experimental study of ability in Latin."
483. **Caldwell, Otis W., and others.** The course in natural science in the University elementary school. Elementary school journal, 18 : 410-22, February 1918.  
To be continued.
484. **Certain, C. C.** Organizing for patriotic work in English classes. English journal, 7 : 177-86, March 1918.  
The organizing of English classes in Detroit to assist in the Liberty loan drive.
485. **Cruikshank, A. H.** The future of Greek. Oxford, B. H. Blackwell, 1917. 25 p. 8°.
486. **Cutting, Starr Willard.** Modern languages in the general scheme of American education. Monatshefte für deutsche sprache und pädagogik, 19 : 25-34, February 1918.  
Paper read before the section for the teaching of modern foreign languages of the Wisconsin teachers' association, November 2, 1917.
487. **Dodd, E. E.** Personal expression in the high school. Quarterly journal of speech education, 4 : 40-46, January 1918.  
"The agencies employed by personal expression in developing personality and conversational ability are the following: (1) A large amount of group conversation work; (2) a large amount of field work; (3) the working out of assigned projects; (4) the study at first hand of the personality and conversational success of others; (5) the reading of the literature which relates directly to the purposes of the subject; (6) a limited number of instruction lessons."
488. **Farmer, A. N., and Huntington, Janet Rankin.** Food problems. To illustrate the meaning of food waste and what may be accomplished by economy and intelligent substitution. Boston, New York [etc.] Ginn and company [1918] 90 p. 12°.
489. **Farnham, C. Evangeline.** Devices for teaching oral French. Modern language journal, 2 : 203-14, February 1918.
490. **Fisher, Willard J.** Some opinions on college physics teaching. Science, n. s. 47 : 182-185, February 22, 1918.  
Says that students should not be permitted to take a purely textbook course in elementary physics; the laboratory should invariably accompany the recitation.
491. **Forbes, George M.** The teaching of foreign languages and the national spirit. Journal of the New York state teachers' association, 5 : 1-4, February 1918.  
Résumé of an address delivered at the annual meeting of the Associated academic principals of New York state, December 28, 1917, at Syracuse, N. Y.  
Says, in conclusion, that the whole energy of the nation should be used for the realization of the ideal of one language, one national spirit, one flag.

492. **Goode, J. Paul.** A course in economic geography. *School and society*, 7 : 216-22, February 23, 1918.  
Read at the Columbus, Ohio, meeting of the Central association of science and mathematics teachers.  
Outlines three courses in geography: (1) The elements of geography, (2) Economic geography, and (3) Commercial countries.
493. **Hauch, Edward Franklin.** A few popular misconceptions with regard to language study. *School and society*, 7 : 277-84, March 9, 1918.  
Concerning the study of foreign languages.
494. **Herring, Bertha F.** Training in the technique of speech in the high school. *Quarterly journal of speech education*, 4 : 12-18, January 1918.  
Read before the National convention of academic teachers of public speaking, Chicago, December 28, 1917.
495. **Jarvis, Charles H.** The teaching of history. Oxford, At the Clarendon press; London, New York [etc.] H. Milford, 1917. 240 p. 12°.
496. **Jones, Anna S.** Latin in the grades again. *Classical journal*, 13 : 436-41, March 1918.  
Commends Latin work in the grades. Says that it serves to illuminate English grammar, and helps the student to learn habits of concentration. "The exactness of the language enables him to see results when he does try to be accurate."
497. **McCrosky, Cecile B.** The administration of English in the high-school curriculum. *English journal*, 7 : 108-17, February 1918.  
Study based on a questionnaire addressed to the heads of the English departments of 100 of the first-grade high schools of Ohio.
498. **Martin, Earl W.** Types of teaching in introducing the high-school freshman to formal algebra. *Educator-journal*, 18 : 349-56, March 1918.
499. **North Carolina.** State normal and industrial college, Greensboro. The teaching of modern languages in the high school, by Hinda Teague Hill, Christine R. Reincken, Vivian Hill, Grace Riddle. [Greensboro, N. C., 1918] 54 p. 8°. (Bulletin, vol. VII, no. 3, February 1918.)
500. **O'Shea, M. V.** Old-fashioned vs. new-fashioned education. *Mother's magazine*, 13 : 234-35, 259, March 1918.  
Compares the value of algebra and Latin with the new subjects of the curriculum.
501. **Padin, José.** The teaching of English in the higher grades. *Porto Rico school review*, 1 : 23-29, December 1917.  
Some suggestions for teachers in teaching English to Porto Ricans.
502. **Painter, George S.** The problem of language study. *American education*, 21 : 348-56, March 1918.  
The professional use of language, language as a medium of literature, language study and our mother tongue, and time given to language study.
503. **Phillips, Charles.** Not German, but Germanism. *America*, 18 : 585-86, March 16, 1918.  
Says that German in our schools has been too often Germanism. Shows the insidious danger in the textbooks in use.
504. **Quaife, M. M.** Some suggestions to teachers of history concerning the Great war. *Wisconsin journal of education*, 50 : 41-42; February 1918.
505. **Sorrenson, Fred S.** The teaching of oral English. *Education*, 38 : 536-40, March 1918.
506. **Teaching**, vol. 3, no. 10, December 15, 1917. (Oral English in the high school.)  
Contains: 1. F. L. Gilson: Interpretive oral English, p. 4-9. 2. E. R. Barrett: Debate and oratory in the high school, p. 9-14. 3. F. L. Gilson: High-school dramatics, p. 14-20. 4. E. B. Gordan: Community drama, p. 20-22. 5. Miss Z. C. Bauman: Public speaking in the high school, p. 23-24. 6. C. O. Smith: Socialized English, p. 24-28. 7. E. E. Dodd: Personal expression, p. 28-30.
507. **Tibbetts, Gladys C.** Better high-school plays. *English journal*, 7 : 98-107, February 1918.  
Invectives against the farce-comedies which seem to be most popular for high-school production as weak, silly, and trivial. Gives an extensive list of standard plays suitable for high schools.

508. Todd, T. W. German in our public schools. *Education*, 33 : 331-35, March 1918.

Writer says that whatever the result of the war may be the German language cannot be entirely ignored any more than German history can be ignored.

509. Wells, Hugh N., and O'Neill, J. M. Judging debates. *Quarterly journal of speech education*, 4 : 76-92, January 1918.

510. Wilcox, Susan E. The double period in English. *Illinois association of teachers of English bulletin*, 10 : 1-10, March 1, 1918.

The use of the double period in the high school English course of Springfield, Ill., as a part of the general plan for supervised study.

511. Wilkins, Lawrence A. The American and the foreign teacher of foreign languages. *Bulletin of high points in the teaching of modern languages in the high schools of New York City*, 2 : 1-4, February 1918.

An analysis of the characteristics of the two types of foreign language teachers with suggestions for the improvement of each.

### KINDERGARTEN AND PRIMARY SCHOOL.

512. Shute, Mary C. The practice of democracy in the kindergarten. *Kindergarten and first grade*, 3 : 89-94, March 1918.

### RURAL EDUCATION.

513. Bricker, Garland A. Rural teachers and the war. *Progressive teacher*, 24 : 30-31, March 1918.

The first of two articles presenting ways and means whereby rural teachers may help to win the war.

Also in *American education*, 31 : 358-59, March 1918; and in *Nebraska teacher*, 39 : 398-399, March 1918.

514. Hanson, C. C. What the rural schools in the South must be and do after the world war. [Washington? D. C., 1918] 32 p. 4°.

A paper prepared and read by C. C. Hanson, of Memphis, Tenn., before the National conference on rural education and country life, called by the United States commissioner of education, at Washington, D. C., February 20-23, inclusive, 1918.

515. Heeter, N. E. Reaching communities through rural schools. *Indiana instructor*, 2 : 21-25, March 1918.

516. Schultzberg, George. Consolidation of schools. *Sierra educational news*, 14 : 132-35, March 1918.

Discusses the subject of consolidation in California. Gives the objections and obstacles to the movement, some advantages, and how consolidation may be accelerated.

### SECONDARY EDUCATION.

517. Illinois. University. High school conference. Proceedings . . . November 22-24, 1917. Urbana, University of Illinois, 1918. 354 p. 8°. (University of Illinois bulletin, vol. 15, no. 15, December 10, 1917)

Contents: 1. H. A. Hollister: The call of the hour to the high schools, p. 9-13. 2. Helen C. Putnam: Dynamic health instruction, p. 22-30. 3. E. G. Beals: Statistics on vocational guidance in the high schools of Illinois, p. 35-39. 4. H. G. Schmidt: Preparation of teachers to take up vocational guidance, p. 39-41. 5. A. J. Burton: The use of the card index and catalogue of traits, p. 41-45. 6. W. N. Brown: The school employment bureau, p. 45-50. 7. Celestine L. Rice: Equipment of biological laboratories, p. 51-62. 8. T. J. McCormack: "In the beginning was the Word," p. 114-19. 9. R. C. Moore: Conflicting educational ideals, p. 155-63. 10. Mr. Widger: The English teacher's bit, p. 175-77. 11. Bess East: Better everyday English, p. 179-83. 12. Human geography; a second year-course in high school geography, p. 190-222. 13. F. D. Crawshaw: The relation between drawing and design and the manual arts, p. 227-31. 14. H. O. Rugg and J. R. Clark: A fourth report on the standardization of first year mathematics, p. 235-41. 15. L. S. Jones: The junior high school mathematics of the seventh and eighth grades, p. 253-61. 16. Amanda Lewerenz: A half year's trial of supervised study, p. 274-77. 17. H. V. Stearns: Musical America: the high school as its nucleus, p. 292-96. 18. Lydia Clark: Problems and possibilities for physical education in public schools, p. 299-304. 19. Ross M. Cyles: Some problems and possibilities of physical training in high schools equipped with gymnasiums, p. 309-13. 20. A. F. Lyle: Problems of American democracy, p. 347-53.

518. Briggs, Thomas H. A national program for secondary education. *School and society*, 7 : 301-6, March 16, 1918.  
An address delivered before the National council of education at Atlantic City, February 26, 1918. Advocates giving the U. S. Bureau of Education increased dignity and support and making the Commissioner a member of the Cabinet.
519. Horn, P. W. The junior high school. *Ohio educational monthly*, 67 : 94-96, March 1918.  
This article appeared in one of the recent reports of Supt. P. W. Horn, of Houston, Texas. It shows the good results that have materialized from the junior high school.
520. Hunt, Agnes. The war and the secondary education of girls in France. *History teacher's magazine*, 9 : 131-34, March 1918.
521. Maphis, Charles G. First aid to high school teachers. *Virginia journal of education*, 11 : 245-46, February 1918.  
Article IV.—Terminology in education.
522. Moskowitz, David H. New demands on secondary schools. *Educational review*, 55 : 220-27, March 1918.  
Secondary schools and the demands imposed by the conditions of war and after-war life. Thinks it would be advisable that the secondary school curriculum in the first two years should be composed of those courses which are fundamental to any line of endeavor.
523. O'Shea, M. V. The effects of the war on secondary schools. *Wisconsin journal of education*, 50 : 31-35, February 1918.  
The bad effects of the war on the schools, blessings in disguise, etc. Editorial comment.
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An investigation, by the Committee on the needs of women's colleges of the Boston branch of the Association of collegiate alumnae, of certain aspects of graduate work leading to the degree of Master of Arts in most of the colleges and universities represented in the Association of collegiate alumnae.

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Concluded from February number. Discusses deafness in the public schools, and adenoid growth. Illustrated.

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608. **Cowing, Agnes.** Some experiments in work with elementary school children. *Library journal*, 43 : 210-14, March 1918.  
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610. **Fogarty, John F.** False tendencies in education. *America*, 18 : 532-33, March 2, 1918.  
Deals principally with the neglect of reading.

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613. **Seaman, Katherine Byrne.** Home reading for the adolescent boy. School and home education, 37 : 134-36, February 1918.  
A suggestive list of the types of books a boy likes and needs is appended.

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614. Music in secondary schools; a report of the Commission on the reorganization of secondary education, appointed by the National education association; prepared by Will Earhart and Osbourne McConathy. Washington, 1918. 37 p. (Bulletin, 1917, no. 49.)
615. Physical education in secondary schools. A report of the Commission on the reorganization of secondary education appointed by the National education association. Washington, 1918. 24 p. (Bulletin, 1917, no. 50)



DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 13

THE LAND GRANT OF 1862  
AND THE LAND-GRANT  
COLLEGES

BY

BENJ. F. ANDREWS

SPECIALIST IN LAND-GRANT COLLEGE STATISTICS  
BUREAU OF EDUCATION



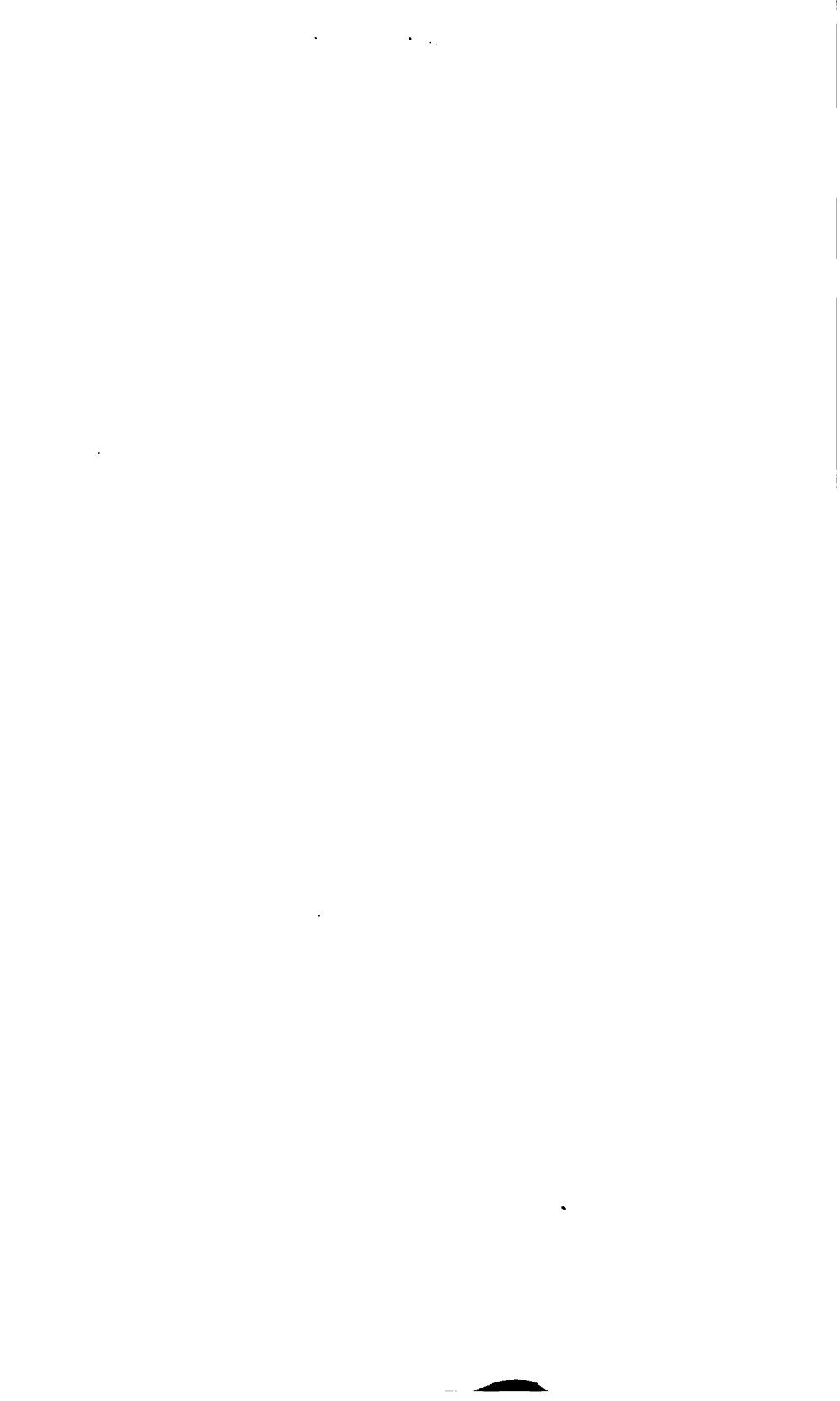
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# LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, June 23, 1917.*

SIR: The act of July 2, 1862, "donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," led to the establishment of a group of higher institutions, at least one in each State, having direct relations with the Federal Government and dedicated to a common purpose. The purpose as stated in the act was "the promotion of the liberal and practical education of the industrial classes." As translated in institutional practice it has meant the professional training of men and women in agriculture, home economics, and various branches of engineering.

In most of the fields in which these colleges now give training, however, there was not in 1862 an organized body of scientific knowledge sufficient to furnish working material for courses such as higher institutions are expected to give. Before the common purpose which has informed these colleges could be partially realized, it has been necessary by research and experimentation to develop several sciences and to organize the applications of them into scientific professional curricula. The land-grant colleges have contributed largely to the accomplishment of these things. Their efforts have led to the establishment of several new professions, to the stimulation of new achievement in both the great industrial fields to which they minister, to the higher training of numerous young persons who could not or would not have sought it in the older channels, and to the profound modification of both the doctrine and the content of higher education throughout the country. The influence which these colleges have had on the development of American life is perhaps the most far-reaching influence that has come from any educational source in the half century since the passage of the land-grant act. Taken together, these institutions represent America's most distinctive contribution to higher educational theory and practice.

Now that the position of the land-grant colleges has become so plain, it is of special interest that all important matters relating to their history and their contemporaneous status should be recorded. One of the obscure chapters in the history of these institutions has been the disposition made by the various States of the original land grant of 1862, which provided for the establishment of the institutions. I have, therefore, requested Mr. Benjamin F. Andrews, specialist in land-grant college statistics, to investigate this question. The document submitted herewith contains the result of his researches. I recommend its publication as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

## ACKNOWLEDGMENTS.

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In compiling the foregoing history acknowledgment is made of the following aids and authorities:

Publications of the United States Bureau of Education, especially the annual reports of land-grant colleges, circulars of information, histories of education in the various States, and Bulletin, 1905, No. 348, "General Laws Relating to Agricultural and Mechanical Colleges."

Annual reports and catalogues from the land-grant colleges from 1862 to 1916, inclusive.

Reports of State land boards, auditors, treasurers, comptrollers, and other State officials.

"History of the Agricultural College Land Grant of July 2, 1862."—Halliday and Finch.

"Federal and State Aid to Higher Education."—Blackmar.

"National Legislation Concerning Education."—Germann.

"Forty Years of the University of Minnesota."—E. Bird Johnson.

"History of the University of Arkansas."—Reynolds and Thomas.

"History of the University of North Carolina."—K. B. Battle.

"History of Reconstruction, Why the Solid South."—Herbert.

Session laws and codes of the various States and of the United States.

Thanks are due to Mr. L. A. Kalbach, former specialist in land-grant college statistics and later chief clerk of the Bureau of Education, for much timely assistance from his invaluable experience, and also to those State and college officers who have taken time and trouble to seek out and forward special information and statistics and to aid with advice and suggestions.

BENJ. F. ANDREWS,

*Specialist in Land-Grant College Statistics.*

# THE LAND GRANT OF 1862 AND THE LAND-GRANT COLLEGES.

## MORRILL LAND-GRANT ACT OF 1862.

AN ACT Donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to 30,000 acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of 1860: *Provided,* That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted,* That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one-quarter of a section; and wherever there are public lands in a State subject to sale at private entry at \$1.25 per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State; and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at \$1.25 per acre to which said State may be entitled under the provisions of this act land scrip to the amount in acres for the deficiency of its distributive share, said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided,* That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State or of any Territory of the United States; but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at \$1.25 or less an acre: *And provided further,* That not more than one million acres shall be located by such assignees in any one of the States: *And provided further,* That no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted,* That all the expenses of management, superintendence, and taxes from date of selection of said lands previous to their sales and all expenses incurred in the management and disbursement of moneys which may be received therefrom shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied, without any diminution whatever, to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted,* That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States or of the States, or some other safe stocks, yielding not less than 5 per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished, except so far as may be provided in section fifth of this act, and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of this act to the

endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the legislatures of the States may respectively prescribe in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

*First.* If any portion of the fund invested as provided by the foregoing section, or any portion of the interest thereon, shall by any action or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding 10 per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms whenever authorized by the respective legislatures of said States;

*Second.* No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever to the purchase, erection, preservation, or repair of any building or buildings;

*Third.* Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as prescribed in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the States shall be valid;

*Fourth.* An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior;

*Fifth.* When lands shall be selected from those which have been raised to double the minimum price in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionally diminished;

*Sixth.* No State, while in a condition of rebellion or insurrection against the Government of the United States, shall be entitled to the benefit of this act;

*Seventh.* No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its legislature within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted*, That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, 1863.

SEC. 7. *And be it further enacted*, That land officers shall receive the same fees for locating land scrip issued under the provisions of this act as are now allowed for the location of military bounty land warrants under existing laws: *Provided*, That maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted*, That the governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved, July 2, 1862. (12 Stat., 503.)

## ACT OF 1864, TO EXTEND THE TIME FOR ACCEPTING THE GRANT.

AN ACT OF Congress extending the time within which the States and Territories may accept the grant of lands made by the act entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:*

SECTION 1. That any State or Territory may accept, and shall be entitled to the benefit of the act entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, by expressing its acceptance thereof as provided in said act, within two years from the date of the approval of this act, subject, however, to the conditions in said act continued.

SEC. 2. And it is further enacted that the benefit of the provisions of this act, and of the said act approved July 2, 1862, be, and the same are hereby, extended to the State of West Virginia.

Approved, April 14, 1864.

## ACT OF 1866, EXTENDING THE TIME WITHIN WHICH AGRICULTURAL COLLEGES MAY BE ESTABLISHED.

AN ACT To amend the fifth section of an act entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July 2, 1862, so as to extend the time within which the provisions of said act shall be accepted and such colleges established.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the time in which the several States may comply with the provisions of the act of July 2, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," is hereby extended so that the acceptance of the benefits of the said act may be expressed within three years from the passage of this act, and the colleges required by the said act may be provided within five years from the date of the filing of such acceptance with the Commissioner of the General Land Office: *Provided,* That when any Territory shall become a State and be admitted into the Union such new States shall be entitled to the benefits of the said act of July 2, 1862, by expressing the acceptance therein required within three years from the date of its admission into the Union, and providing the college or colleges within five years after such acceptance, as prescribed in this act: *Provided further,* That any State which has heretofore expressed its acceptance of the act herein referred to shall have the period of five years within which to provide at least one college, as described in the fourth section of said act, after the time for providing said college, according to the act of July 2, 1862, shall have expired.

Approved, July 23, 1866. (14 Stat., 208.)

## ACT OF 1883, AMENDING SECTION 4 OF THE ACT OF 1862.

AN ACT To amend an act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the fourth section of the act donating public lands to the several States and Territories which may provide colleges for the benefit of agricul-

ture and the mechanic arts, approved July 2, 1862, be, and the same is hereby, amended so as to read as follows:

SEC. 4. That all moneys derived from the sale of lands aforesaid by the States to which lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States or of the States, or some other safe stocks; or the same may be invested by the States having no State stocks, in any other manner after the legislatures of such States shall have assented thereto, and engaged that such funds shall yield not less than 5 per centum upon the amount so invested and that the principal thereof shall forever remain unimpaired: *Provided*, That the moneys so invested or loaned shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section 5 of this act), and the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Approved, March 3, 1883. (22 Stat., 484.)

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The act of Congress of July 2, 1862, known as the first Morrill Act, granted to each State 30,000 acres of public land for each Senator and Representative in Congress to which the State was entitled by the apportionment under the census of 1860; all money derived from the sale of these lands was to be invested by the State in securities bearing interest at not less than 5 per cent except that the legislature of the State might authorize the use of not more than 10 per cent of the capital for the purchase of sites for the college or experimental farms. The interest was to be used for the endowment, support, and maintenance of at least one college where the leading object should be to teach such branches of learning as are related to agriculture and the mechanic arts in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.<sup>1</sup>

Although the Territories are mentioned in the title of the act, in the act itself they are not included; consequently the grants of land were received only by the States. As each Territory was admitted to statehood, provision was made in its enabling act for a grant of land for agricultural and mechanical colleges in lieu of the original grant of 1862; so that, at the present time, only Alaska, Hawaii, Porto Rico, and the Philippine Islands do not participate in the grants either under the original act of 1862 or under later acts in lieu of it.

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<sup>1</sup> A very complete discussion of the action of Congress on this bill and on other bills in aid of colleges of agriculture and the mechanic arts may be found in Bulletin No. 10, 1917, of the Carnegie Foundation for the Advancement of Teaching, "Federal Aid for Vocational Education," by I. L. Kandel.

The original act was amended three times. The amendments of April 14, 1864, and July 23, 1866, extended to July 23, 1871, the time in which States could accept the provisions of the original act. The third amendment, March 3, 1883, permitted the investment of the capital derived from the sale of lands in a greater variety of stocks and bonds than was permitted by the original act.

The distribution of land was made in two ways. Those States that had public lands within their borders could locate and take up the actual acres. If the State had no lands within its borders subject to entry, then land scrip was issued to it; the land represented by such scrip could not be located by the State receiving it, but the act provided that the scrip be sold and that the individual purchaser might locate the lands in any State that had public land subject to entry.

In the management of their allotments great diversity was shown by the different States; some sacrificed their holdings for a very small price; others, by withholding them from sale for a time, ultimately obtained a fair value for them. New York adopted a unique plan which was immensely profitable, but whose history is too long for this article. A synopsis is given on page 35, under "New York." The States that located the actual acres also had varied experiences; some located lands that were held by the Federal Government at double minimum price and therefore received only 1 acre of land for 2 acres of the grant; other causes intervened in some cases to make the location of the exact amount of the grant impossible.

An attempt has been made here to give, from the mass of detailed and frequently conflicting information, a brief history of the management of the grant to each State and to show how each benefited from the act of July 2, 1862.

*Alabama* was entitled to 240,000 acres in land scrip. The State legislature accepted the provisions of the act on February 13, 1867, which acceptance was reaffirmed in the constitution of December 31, 1868. On June 17, 1871, the scrip had all been sold, bringing \$216,000, which was invested in State bonds to the value of \$253,500 bearing interest perpetually at 8 per cent. This yields a yearly income of \$20,280 for the college.

But after accepting and disposing of the grant the establishment of the college continued to be a harassing question until the Methodist Church offered its college, Eastern Alabama Male College at Auburn, to the State for a foundation. This gift was accepted by the State, February 26, 1872, and the new college organized on March 20, under the title of "Alabama Agricultural and Mechanical College." Later the name was changed by adding "and Polytechnic Institute." It receives all the income, \$20,280, from the original land grant and also all Federal grants in aid of agricultural experiment ~~and~~

agricultural extension work within the State; it shares with the Agricultural and Mechanical College for Negroes the annual appropriation received by Alabama under the second Morrill Act and the Nelson amendment.

*Arizona*, under its State enabling act of June 20, 1910, received 150,000 acres in lieu of the grant under the act of 1862 for agricultural and mechanical colleges. This grant, together with all other State lands, is in the control of a State board of land commissioners, who are charged with the duty of locating and selling the lands. On June 30, 1914, all the agricultural college lands had not been located and confirmed, and none of them had been sold. A State law fixes a minimum price of \$3 per acre.

In 1885 the Territorial legislature passed an act organizing a State university and establishing its location at Tucson. This institution opened in October, 1891. When the State was admitted to the Union and received the usual quota of lands for different purposes, the legislature wisely decided to center all its higher educational efforts in one institution, and accordingly conferred all its grants for higher education, including the grant for an agricultural college, upon the University of Arizona. By this means this institution is possessed of a magnificent potential endowment.

*Arkansas* received 150,000 acres in land scrip. On May 11, 1864, the State legislature accepted the land-grant act of 1862, but owing to the disturbed condition of the State because of the war another act of the legislature was necessary before the scrip could be issued; this was passed January 31, 1867. On March 27, 1871, the legislature again affirmed the acceptance of the conditions of the 1862 land-grant act, and by the same act organized a college to receive the benefit of the grant. This was called the Arkansas Industrial University, and was located at Fayetteville. On January 22, 1872, the institution opened its doors to students. Later its name was changed to the University of Arkansas.

On August 22, 1872, a tentative sale of the scrip was made to G. F. Lewis, representing the Ohio Land Co. (the same Lewis that appears in many of the purchases of State scrip), and \$135,000 was realized. While the price was low, there was still some doubt whether or not the scrip would be issued, and Lewis took some chance, so that the transaction seems to have been warranted by all the conditions.

Of this principal, \$11,000 was used to purchase the site for the university, \$121,333.33 was invested in \$130,000 worth of Fayetteville and Washington County bonds, and the balance remaining—\$2,666.67—was erroneously used for current expenses.

In 1902, Fayetteville and Washington Counties redeemed all of their bonds except \$9,000, which was paid in 1907. In January, 1902,



the State legislature transferred \$116,000 worth of 3 per cent State bonds to the University of Arkansas endowment fund, 1862 land grant, leaving \$5,000 uninvested. As a result, on June 30, 1914, there was a considerable deficit in the amount that should have been paid to the university.<sup>1</sup> In interest return there was a deficit of \$33,436.53, while the capital of the fund, instead of being \$132,666.67 at 5 per cent, was as follows:

- \$116,000 invested at 3 per cent since January, 1902.
- \$2,666.67 improperly dissipated in 1872 and not replaced.
- \$5,000 uninvested since 1902.
- \$9,000 uninvested since 1907.

*California* was entitled to 150,000 acres of land in place. The State legislature accepted the grant on March 31, 1866, and provided for the establishment of an agricultural, mining, and mechanical college to receive the benefit of the fund. Nothing further toward a real college was done until two years later, when the trustees of the College of California formally presented their site and property at Berkeley to the State on condition that a university be established there; accordingly, the University of California was organized by the legislature on March 23, 1868, and endowed with the property of the former College of California as well as all the lands granted to the State for college purposes.

After vain efforts to sell the land warrants without locating the land at \$5 per acre, California obtained from Congress on March 5, 1871, an act giving special concessions. The lands could be located from any open lands within the State without restrictions on the character selected; selections could be made in the smallest subdivisions recognized, 40-acre plats; and other privileges of value to purchasers were given. A demand for the land now arose. Sales were made on time payments, the purchasers locating their selections in the name of the University of California; some of the purchasers defaulted their payments and the lands reverted to the university for resale. A complete history is too long for this article but can be found in the yearly reports of the university land agent. The net result was that on June 30, 1914, the fund from the land grant of 1862 had in its principal \$732,233.14, with 1,402 acres unsold. The income from investments, rentals, and all sources was \$42,374.07 for the year. The capital, \$732,233.14, is invested by the university in miscellaneous securities, the details of which are given in the annual

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<sup>1</sup> The legislature of 1917 restored the capital of the 1862 land-grant fund to the full amount, \$132,666.67. It refunded the present 3 per cent with 5 per cent bonds, replaced the uninvested and dissipated amounts with 5 per cent bonds and provided that a temporary 8 per cent loan of \$9,000 should be replaced at maturity with 5 per cent bonds, thus bringing the entire capital into one investment in State 5 per cent bonds. The legislature also appropriated \$48,037.51 to replace the interest due the university because of investments at less than 5 per cent from 1872 to 1917. This action clears the State and the university in all matters concerning the 1862 land-grant fund.

report of the treasurer. The interest from invested funds is slightly over 5 per cent.

*Colorado* was organized into a State by act of Congress approved March 3, 1875, and was admitted on August 1, 1876. On January 27, 1879, the State legislature accepted the land-grant act of 1862, thereby entitling Colorado to 90,000 acres for the agricultural college.

On February 11, 1870, the Territorial legislature had established the Colorado Agricultural College, but not until 1877 was the institution formally organized. Some two years later it received the land-grant endowment.

To manage the institution, the State legislature established a State board of agriculture of 10 members, the governor and the president of the college being *ex officio* members. All State lands, including the agricultural college lands, are under the control of a State board of land commissioners, which locates and disposes of them by lease or sale, turning over the proceeds to the State treasurer for disposition as provided by the laws controlling the different funds involved. It was some years before any agricultural college lands were located, but when location once began they were promptly rented and sometimes sold, thus bringing an income to the college from the beginning. From 1905 to 1915 the funds turned over to the State treasurer for investment were allowed to remain uninvested, or with only bank interest as an income, the yearly income of the college through the land grant being received almost entirely from rentals of lands held by the State board of land commissioners.

On April 12, 1915, the legislature passed an act placing the permanent fund under the administration of the State board of agriculture and providing for its investment at not less than 5 per cent interest. Immediately this board began to invest the money as fast as offers could be accepted by the State attorney general. In January, 1917, the State auditor reported that the permanent fund amounted to \$195,407.06, of which \$194,688.55 was invested as required by law to net not less than 5 per cent per annum. So far there has been no difficulty in investing the fund in municipal waterworks bonds and school district bonds.

The report of the State board of land commissioners shows that on November 30, 1914, there had been located and confirmed from the 90,000 acre grant all but 74.37 acres, and of this amount 55,807.05 acres had been sold, producing \$185,956.34. During the 1913-14 biennial period 20,540.31 acres were under agricultural leases, giving \$3,021.70 income; 1,394.46 acres were under coal leases for \$12,895; and about \$3,000 was received in interest, principally bank interest, on the capital of \$185,956.34.

*Connecticut* accepted the Federal grant on December 24, 1862, and received 180,000 acres in scrip. This was immediately sold for

\$135,000 and the interest from the fund granted to Sheffield Scientific School of Yale University, June 24, 1863.

The Storrs Agricultural School was chartered April 6, 1881, and opened September 28, 1881. April 21, 1893, the legislature changed the name to Storrs Agricultural College and at the same time transferred the land-scrip income from Yale to the new institution. The act authorizing the transfer provided for recompensing Yale for any damage due to the removal of the income. Yale immediately took its case into court to prevent the change, but ultimately withdrew its proceedings and received in January, 1896, \$154,604.45 in full settlement from the State, the income from the fund going to the Storrs Agricultural College.

In 1899 the name Storrs Agricultural College was changed to Connecticut Agricultural College.

At first the State invested the capital of the 1862 land-grant fund in State bonds, but as these came due the fund remained in the State treasury without specific investment. The State legislature in 1905 (chapter 74) instructed the State treasurer to pay 5 per cent interest yearly on this capital, \$135,000, without regard to the income derived from it; thus it has become in fact a part of the irreducible State debt. The money is actually invested in notes secured by real estate within the State and brings less than 5 per cent to the State treasury.

By the act of 1905 the income is fixed at \$6,750 and goes to the Connecticut Agricultural College.

*Delaware* College was founded February 6, 1833, and after 26 years of continuous work was forced to suspend on March 30, 1859, through the increasing pressure on its slender resources.

In 1867 the State legislature accepted the Federal land grant of 1862, and on March 14, 1867, conferred it on Delaware College under an agreement with the trustees to reopen the college and to transfer a half interest to the State. On February 17, 1869, the college received a new charter which was amended in 1913 when the State took full title to the institution by conveyance from the trustees of all buildings, grounds, and other property.

Delaware received 90,000 acres in scrip and sold it for \$83,000, investing the money in 6 per cent bonds. In 1877 these bonds were sold, certificates of permanent indebtedness bearing 6 per cent interest being issued to the college in their place. Delaware College receives \$4,980 yearly income from the interest on these certificates.

*Florida*, in 1870, accepted the Federal land grant and provided for the establishment of an agricultural college. The State received 90,000 acres in scrip, sold it for \$80,000, and invested the money, in 1874, in \$100,000 worth of State bonds. Although the State had chartered an agricultural college and had endowed it with this fund, yet no college had been built, so that, in March, 1877. ab-

lishing the college was amended and a new start made. Still nothing was done while the fund went on accumulating, amounting to \$120,000 in 1881. In 1883-84 a site was chosen at Lake City, where a building was erected and occupied. Four years later, 1888-89, the fund consisted of \$153,800 in State bonds of Florida and North Carolina, and one real estate mortgage of \$2,000.

In 1904 the State legislature changed the name of the Florida Agricultural College to University of Florida. In 1905 a reorganization of all the State-supported colleges of Florida took place. The Buckman Act of 1905 merged six schools, of which the University of Florida was one, into two colleges called the Florida Female College and the University of the State of Florida. In 1909 the female college at Tallahassee had its name changed to Florida State College for Women, while the title of the other was shortened to University of Florida.

The Buckman Act of 1905 authorized the relocation of the university and Gainesville was selected, the fourth site in its history, where it has had its home since the summer of 1906.

Of the capital fund, amounting to \$155,800, \$135,000 is invested in State bonds at 3 per cent, the Buckman Act of 1905 making a continuing appropriation of \$2,716 for the deficit of 2 per cent in the interest, payable from any fund in the possession of the State board of education; \$10,000 is in North Carolina 6 per cent bonds, \$8,000 in City of Lakeland 5 per cent bonds, and \$2,000 is uninvested. This \$2,000 was invested in a mortgage; upon payment it was carried into current funds and spent, so that now it must be deducted, leaving the capital of the land-grant fund at \$153,800.

*Georgia.*—The State legislature, December 12, 1866, accepted the Federal land-grant act of 1862, thus bringing 270,000 acres in scrip to the State. This was sold on long-term credits extending over 10 years and ultimately brought \$242,202.17. As the money was received it was invested in interest-bearing securities for the use of the agricultural colleges.

Although the act of 1866 authorized a college of agriculture and mechanic arts, it was not until March 30, 1872, that it was provisionally organized as a department of the State University; the first students were admitted May 1, 1872.

Meanwhile the legislature used the income from the Federal grant to encourage several institutions, all "branch colleges" of the University of Georgia, but each having its own board of control subject to the trustees of the university as a court of last recourse. At various times five agricultural colleges besides the State college at Athens have received some portion of the income; these were located at Dahlonega, Milledgeville, Cuthbert, Thomasville, and Hamilton. The North Georgia Agricultural College at Dahlonega is the only one that still receives any portion of the fund.

On July 21, 1907, the legislature authorized a separate board of control for the Georgia State College of Agriculture and Mechanic Arts, but left it subordinate to the university board and continued the college as a part of the university. This act reaffirmed the disposition of the income from the land-grant fund. The total income, \$16,954.14, was conferred on the State university, but the trustees were instructed to use \$2,000 for the North Georgia Agricultural College at Dahlonega and \$14,954.14 for the Georgia State College of Agriculture and Mechanic Arts.

On June 30, 1914, the capital of the fund amounted to \$242,202.17, invested in a 7 per cent State certificate of indebtedness similar to a bond and due in 1934. The income of \$16,954.14 per year goes to the University of Georgia for distribution as stated above.

*Idaho.*—By the State enabling act, July 3, 1890, Idaho received 90,000 acres of land for agricultural and mechanical colleges in lieu of the Federal grant of 1862.

In 1889 the legislature had established the University of Idaho, and in 1892 it endowed it with the income from this grant. The land and funds are under the management of the State board of land commissioners, which board handles all the State lands.

The income from the sale of all lands is combined and invested as opportunity offers in school bonds, State bonds, and farm loans; the total income is prorated to the different funds. The income from the agricultural college grant varies from year to year as lands are sold or rented. The report of the State land department of Idaho, June 30, 1914, showed in this fund a capital of \$129,615.82, with 64,198.38 acres unsold. The income from interest and rentals was \$28,425.70.

*Illinois.*—On February 28, 1867, the State Legislature of Illinois organized the Illinois Industrial University and endowed it with the agricultural college fund. Instead of attempting to handle the fund the State turned the 480,000 acres in scrip over to the university, leaving all matters of management to the trustees. Omitting fractional parts of sections, 25,440 acres were located in Nebraska and Minnesota, while 454,560 acres in scrip were sold outright for \$319,494.01, the amount being invested in Illinois county bonds. The located lands were sold from time to time as opportunity offered, and the price was added to the capital of the fund.

The care of both principal and interest of this fund remained with the trustees of the university until 1897, when, owing to a defalcation of the university treasurer, the State was obliged to make good the loss of considerable of the principal of the fund, and consequently took over its management. The State legislature replaced the principal by making it a part of the irreducible State debt, on which it

agreed to pay 5 per cent interest perpetually. As the lands are sold the proceeds are turned into the State treasury and the fund is automatically increased by that amount. On June 30, 1916, the capital of the fund was \$649,012.91, on which the State pays 5 per cent interest to the University of Illinois. The income for 1915-16 was \$32,450.34.

In June, 1885, the name of the institution was changed to University of Illinois.

*Indiana* accepted the land-grant act of 1862 on March 6, 1865, receiving 390,000 acres in scrip. The legislature of 1863 had been urged by the governor to take the necessary action and to designate a location for the college, but so many competitors came into the field, each wanting the college and its endowment, that the legislature finally adjourned without action, leaving it for the session of 1865.

In the same act that accepted the grant of land a board of five, the governor being ex officio president, was named under the title of "The Trustees of the Indiana Agricultural College." This board was instructed to obtain the scrip from the Secretary of the Interior, to sell it, and to invest the proceeds. It does not appear that it was empowered to establish or organize a college and the matter of a site still remained to be settled. This board duly met, organized, obtained the scrip, and on April 13, 1867, sold the entire issue for \$212,238.50, which they invested in United States 5-20 bonds at a premium, paying \$214,681.25 for \$200,000 worth of bonds.

The fight for a location continued through two more sessions of the legislature with no determination. At last, in 1869, John Purdue offered 100 acres of land, \$150,000 in cash, and other gifts; the citizens of Tippecanoe County increased this by \$50,000, and the Methodist Church offered its Battle Ground Institute for a location. On May 6, 1869, the legislature accepted these gifts, located the new college in Tippecanoe County, and authorized the board to organize the college. In recognition of the gifts of Mr. Purdue the name of the college was changed to Purdue University. Later the board settled on the 100 acres received from Mr. Purdue as the site of the college.

Meanwhile it was seen that the institution could not open within the time set by Congress, July 23, 1871; so a special act of Congress was obtained extending the time for the opening of the institution to December 13, 1874. On March 2, 1874, a few informal classes were held in the almost completed buildings, and on September 16, 1874, the new institution formally opened its doors to students.

During the seven years of organization and construction the land-grant fund had been accumulating interest which the trustees re-invested as fast as received. In this way the permanent fund was increased to a face value of \$340,000 in Government bonds costing

\$351,728.97. In 1881 the State authorized the issue of a 5 per cent State bond due April 1, 1901, for this fund, and in 1901 this bond was transferred into a perpetual State debt. The present income of Purdue University from this fund is \$17,000 per year, 5 per cent on \$340,000.

*Iowa.*—The Iowa agricultural college was chartered in 1858 and established the following year on a farm of 640 acres near Ames. On September 11, 1862, the State legislature accepted the grant of Congress, thus obtaining for Iowa 240,000 acres of land and conferred it on the agricultural college at Ames.

The governor appointed Peter Melondy to locate the lands. He selected about 50,000 acres of maximum value lands near the Dubuque & Sioux City Railroad and the Cedar Rapids & Missouri River Railroad. Later results showed his good judgment. In all, he located about 195,000 acres, which, on adjustment and remeasurement, were confirmed by the United States Land Office at 204,309 acres.

At first these lands were leased at about 8 per cent on an appraised value of \$1.50 to \$3 per acre, giving at once a satisfactory income. From the start the college maintained a financial agent to handle the lands. This agent bought, sold, and rented lands, invested and re-invested the income, managing the grant so well that on June 30, 1914, the principal amounted to \$686,817.97, invested chiefly in farm mortgages, and bringing a net income of \$35,191.86 to the college.

*Kansas.*—The Legislature of Kansas accepted the Federal land grant on February 3, 1863, and on February 16 accepted the gift from the Methodist Church of the property of Bluemont Central College as a site for the new agricultural college. Here the Kansas State Agricultural College was established and endowed with the land grant of 90,000 acres.

The college located the lands to the amount of 82,315.52 acres, the deficit of 7,686.48 acres being made up by special act of Congress in 1907. The lands have been handled by the college in the usual manner of rental and sale, the proceeds of sales going to the principal of the fund. On June 30, 1914, the principal was \$491,746.74, with 7,686.48 acres unsold. The income from investments and rental was \$25,614.40 for the year.

*Kentucky* accepted the land-grant act on January 27, 1863, and received thereby 330,000 acres in scrip. The State sinking fund commissioners sold this for 50 cents per acre, realizing \$164,960, and invested the money in State 6 per cent bonds. Now began the usual struggle as to that part of the State in which should be located the agricultural college to be established on this foundation. While the dispute was still unsettled in the legislature and it seemed as if the time allowed for establishing a college would expire, the Kentucky

University, then located at Harrodsburg, and the Transylvania University, which had long been established in Lexington, were consolidated.

The consolidated institution, bearing the name of Kentucky University, was then removed from Harrodsburg and established at Lexington, and the agricultural college deadlock in the State legislature was settled by attaching the recently created agricultural college to the Kentucky University. In order to comply with the requirements of the legislature, the friends of the university raised by individual subscription \$130,000 for the purchase of land for the use of the agricultural college. The latter opened its doors to students in 1866 as a part of the university.

For a time this arrangement worked well, but in 1875 dissension arose over the policy in management of the agricultural work.

At that time Mr. John B. Bowman, one of those prominent in the affairs of Kentucky University, offered to organize a separate agricultural college, the institution to remain a nominal branch of the university. Through his efforts and those of others a beautiful location at Lexington of 52 acres and a donation of \$30,000 in city bonds were obtained from the city of Lexington and \$20,000 additional in county bonds from Fayette County.

The legislature, recognizing the entire failure of the foundation of a State agricultural college in a church controlled university, first, in 1878, dissolved the connection; next, in 1879, granted a separate organization for the agricultural and mechanical college; and finally, in 1880, accepted the offer of the city of Lexington and established the college there.

On May 16, 1908, the name Transylvania University was restored to the the church controlled university, while the State agricultural and mechanical college was named "State University, Lexington, Kentucky." An act approved March 15, 1916, again changed the name to its present form, "University of Kentucky."

On May 21, 1897, the State legislature passed an act providing a perpetual State bond for \$165,000, bearing interest at 6 per cent, for the land-grant fund of 1862, and instructing that \$1,255.50 of the income should go to the State Normal School for Colored Persons at Frankfort and \$8,644.50 to the State University.

*Louisiana.*—The State legislature accepted the land grant in 1869, thereby entitling the State to 210,000 acres in scrip. This scrip was intrusted to a State board of commissioners, who sold it and invested the proceeds in Louisiana State bonds. On April 7, 1874, the agricultural and mechanical college required by the grant was chartered. The trustees were nine citizens, mentioned by name, and four ex officio members—the governor, the lieutenant governor, the chief justice, and the superintendent of public instruction. While



the board was looking for a permanent location, it opened the college in New Orleans in the building of the University of Louisiana, corner of Baronne and Common Streets. The first students were admitted on November 16, 1874, night and day classes being held.

In the first report of the board to the general assembly of 1875 appears a detailed account of the sale of the land scrip and investment of the fund.

## RECEIPTS.

209,920 acres of scrip, at 87 cents.....	\$182, 630. 40
State appropriation, net, to pay in part expenses of procuring, selling, and delivering said scrip.....	1, 825. 00
Interest on State bonds matured and collected prior to Nov. 1, 1872....	24, 270. 00
Total.....	<u>208, 725. 40</u>

## EXPENDITURES.

For purchasing 327 bonds, of \$1,000 each.....	\$205, 280. 00
Expenses of procuring scrip, etc.....	3, 310. 37
Cash on hand.....	135. 03
Total.....	<u>208, 725. 40</u>

This fixes the capital of the fund at \$327,000 in State bonds, at 6 per cent. The bonds were turned over to the trustees of the college, who deposited them with the State treasurer.

In 1874 a constitutional amendment provided for refunding the entire State debt. Although there seemed to be some doubt whether or not the bonds of the land-grant endowment fund were included, yet it seemed wise to enter them. Accordingly, in 1875 the \$327,000 in bonds were exchanged for \$196,200 worth of new bonds, at 7 per cent, a discount of 40 per cent.

Meanwhile, as no permanent site had been secured, the legislature, on May 19, 1877, passed an act uniting the old Louisiana State University, formerly the State Seminary, at Baton Rouge, and the new agricultural and mechanical college of New Orleans on the site at Baton Rouge. Here, on October 5, 1877, the Louisiana State University and Agricultural and Mechanical College began its present history.

Shortly after this permanent site was obtained the new constitution of 1879 went into effect. Again the land-grant endowment was changed. The 7 per cent bonds for \$196,200 were canceled and the State auditor was instructed to enter on his books to the credit of the university (evidently meaning the institution at Baton Rouge) the capital debt of \$182,313.03, on which the State agreed to pay 5 per cent interest perpetually. No bonds or certificates were issued, but this amount now stands as part of the irreducible State debt and represents the land-grant endowment fund. The income of

\$9,115.69 per year is paid to the Louisiana State University and Agricultural and Mechanical College.

*Maine.*—The State legislature accepted the land grant in 1863 and received 210,000 acres in scrip. On February 25, 1865, it chartered the State College of Agriculture and Mechanic Arts and endowed it with the income from the grant. The college was established on a site at Orono, donated by the towns of Orono and Oldtown. The citizens of Bangor also contributed \$14,000 for the college. The first students were admitted on September 14, 1868. In 1897 its name was changed to University of Maine.

The land scrip was sold in several parcels between 1865 and 1870, bringing a total of \$116,359.20, which sum served to purchase \$118,300 face value of bonds. As interest was paid, it was reinvested from time to time, until we find the treasurer of the college on December 31, 1870, reporting the following condition of the fund:

Bonds of the State of Maine, at 6 per cent.....	\$118,300
Preferred stock, Minnesota Valley R. R. Co., at 10 per cent.....	10,000
City of Bangor bonds, at 6 per cent.....	6,000
	<hr/>
Total.....	134,300

After this date no further reinvestment of interest was added to the capital. In 1874 the treasurer of the college for the first time distinguishes the capital derived from the sale of scrip from that derived from investments of accumulated interest and reports the first item as \$118,400 (evidently an error of \$100) and the second as \$16,000, a total of \$134,400.

In 1889, the legislature authorized the issuance of a 30-year State bond for \$118,300 at 5 per cent, to cover the land-grant fund. This will come due June 1, 1919. The University of Maine receives the income of \$5,915 per year.

*Maryland.*—The State legislature in 1856 (ch. 97, Laws of 1856), passed an act chartering the Maryland Agricultural College. Although a private corporation, it received an annual appropriation of \$6,000 from the State. The institution was established on a farm of 480 acres in Prince Georges County and was opened for students in the fall of 1859. In 1864 the legislature accepted the Federal land grant, bringing 210,000 acres in scrip to the State, and conferred the income from the fund on the Maryland Agricultural College.

In 1866 the trustees were required to deed a half interest in the college to the State in return for an appropriation of \$45,000 to pay its debts. In this act the legislature set aside 10 per cent of the capital of the land-grant fund—the amount authorized by the act to be expended in the purchase of land—to be paid into the State treasury to reimburse the State in part for the amount appropriated in purchasing the half interest; accordingly, the State treasurer

deducted \$11,250 from the selling price of the scrip, \$112,504, and invested the remainder in 6 per cent State bonds, paying the interest annually, less \$90 State tax, to the college. In 1872 the legislature made good these illegal deductions and restored the capital to \$112,504. By favorable investments from time to time the capital has been slightly increased so that on June 30, 1914, it was as follows:

Four per cent State loan of 1914.....	\$27,143.60
Three per cent State loan of 1902.....	38,800.00
Three and one-half per cent public building loan.....	30,000.00
Four per cent State loan of 1912.....	20,000.00
Total.....	115,943.60

The legislature makes an annual appropriation to cover the deficit in interest below the full 5 per cent required by act of Congress.

On March 20, 1914, by action of the legislature, the State foreclosed its mortgage on the college property, and, as it already owned a half interest, it took over the balance with the consent of the private stockholders. This action made the Maryland Agricultural College wholly the property of the State. In 1916 a new charter was granted and the title changed to "Maryland State College of Agriculture."

*Massachusetts.*—The Legislature of Massachusetts accepted the land grant on April 18, 1863, and received 360,000 acres in scrip. By act of April 27, 1863, it divided the fund, conferring one-third of the income on the Massachusetts Institute of Technology and two-thirds on the trustees of the Massachusetts Agricultural College.

The origin of both these institutions, although dated before the national land-grant act of July 2, 1862, was due to the same general movement throughout the country that led to action in Congress; the Massachusetts Institute of Technology was chartered as a private corporation on April 10, 1861, and established in Boston, while five years previously, in 1856, the Massachusetts School of Agriculture had been chartered but never opened; the land-grant endowment put new life into both.

On April 29, 1863, the Massachusetts School of Agriculture was definitely abandoned, and a new institution was chartered called the Trustees of the Massachusetts Agricultural College. On May 11, 1864, an act was passed changing this name to Massachusetts Agricultural College and providing that 10 per cent of the land scrip be used for the purchase of a site for the new college. Accordingly, on May 11, 1864, 36,000 acres in scrip were transferred to the Massachusetts Agricultural College to be sold and the proceeds used to purchase a site. The \$29,778.40, received from the sale of the scrip, was used in part payment of the property at Amherst, costing \$34,999.50. Here the first students were admitted October 2, 1867.

The balance of the scrip was sold by the State from time to time

and the money invested, the income going as provided by law one-third to the Massachusetts Institute of Technology and two-thirds to the Massachusetts Agricultural College.

In the treasurer's report of the Massachusetts Agricultural College under date of January, 1868, appears a statement that the scrip was entirely sold for \$205,509, which had been invested in \$201,700 worth of bonds at various rates of interest, with \$5,724.65 cash balance on hand. The total income is given as \$12,445.48, divided between the two institutions as required by law.

In 1871 the fund had grown by fortunate reinvestments to \$208,464.65, when the legislature increased it to a round \$350,000. In 1876 it had grown to \$360,067.40. In 1882 the legislature divided the fund roughly into money received from the sale of scrip, \$219,000, called the "Technical Education Fund, United States Grant"; and the increments due to fortunate investments, reinvestments, and State grants, \$141,575.35, called "Technical Education Fund, Commonwealth Grant." It is now considered that the United States grant only is subject to the 5 per cent investment requirement.

The United States grant is invested in Massachusetts prison and hospital loan bonds at 5 per cent and brings a yearly income of \$3,650 to the Massachusetts Institute of Technology and \$7,300 to the Massachusetts Agricultural College.

*Michigan.*—As early as 1844 a popular movement in favor of agricultural instruction gained considerable momentum in Michigan. The State constitution of 1850 contained a section requiring that a school of agriculture be founded. This movement culminated in an act passed February 12, 1855, whereby a school of agriculture was established under the control of the State board of education. This board selected a site of 676 acres near Lansing, and there the institution was opened May 15, 1857.

This was the first exclusively agricultural college in the United States. Michigan was the first State to recognize the general demand for scientific collegiate training in agricultural lines and by its agricultural college to strengthen the general movement in that direction.

The State legislature accepted the land grant February 25, 1863, and received 240,000 acres. This grant was placed under the control of the State board of education for the benefit of the agricultural college. Later a State board of agriculture was created to have the management of the college and all its property. The board of education selected agricultural lands, omitting the valuable pine timber, evidently believing that some obligation rested on them to select agricultural lands for an agricultural college. They located the full amount of the grant, but as some of the land was double minimum the actual acreage received was 235,663 acres.

As the lands were sold the amounts received were turned in to the State treasurer and loaned to the State on book account at 7 per cent interest. This interest goes to the agricultural college, which receives also, as part of the yearly income, the interest paid by purchasers of land on unpaid balances. On June 30, 1914, the capital loaned to the State was \$991,673.86, which, together with the interest on unpaid balances of land purchase money, produced \$71,324.94 income for the agricultural college. There were 50,485.49 acres still unsold.

*Minnesota.*—On February 19, 1861, the Legislature of Minnesota passed an act organizing a State university, and on March 10, 1858, an act establishing a State agricultural college. The agricultural college never was born, and the university, although actually beginning work, did not get its affairs to a stable foundation until the reorganization of 1868.

On January 27, 1863, the legislature accepted the terms of the Federal land-grant act of July 2, 1862, and thereby brought to Minnesota 120,000 acres for an agricultural college. This acceptance carried no provision for a college or for the administration of the lands; consequently another act became necessary. On March 3, 1863, the commissioner of the general land office of Minnesota was empowered to select the lands donated for the endowment of a college of agriculture and mechanic arts. Still no college was organized, nor any beneficiary of the fund named.

On March 2, 1865, the original act of 1858 chartering the State agricultural college was amended and practically rewritten; in this act a clause endowing the college with the 1862 land-grant fund was incorporated; again no college resulted. Finally, on February 18, 1868, an act was passed to reorganize and provide for the government and regulation of the University of Minnesota. The university was authorized to establish a college of agriculture as one of its departments, and the 1862 land-grant fund was granted to it for this purpose.

Even now the work was not complete; the commissioner of the State land office had authority only to locate the lands, not to dispose of them; consequently, an act was passed on March 5, 1868, authorizing him to sell the lands that he had located and to invest the proceeds.

Although the University of Minnesota had been in more or less active operation for 17 years, since November 26, 1851, the reorganization act of February 18, 1868, marks the real beginning of its history. The land-grant fund of 1862 may therefore well be considered as the determining cause for the permanent establishment of the State university.

Of the grant of 120,000 acres, 94,439 acres were located and confirmed to the State, 25,511 being double minimum lands. Sales were made on long-time contracts, and leases of various privileges were made. In 1914 the fund accumulated from the various sources amounted to \$579,430.26, giving an interest return of \$22,257.86, 4 per cent on the invested funds. The deficit of 1 per cent is made up by the board of regents of the university, which authorizes a transfer of funds each year for this purpose from the general support provided by the State.

*Mississippi.*—On October 30, 1866, the Legislature of Mississippi accepted the 1862 land grant, and through Gov. Humphreys applied to the Commissioner of the General Land Office at Washington for the 210,000 acres in scrip due the State. It seems difficult to determine why this application was refused. One reason offered is that the time had expired for accepting the grant; another suggests that the action of the State legislature was not recognized because the State had not been reconstructed. The files of the General Land Office fail to disclose any reason. However, Congress, on May 13, 1871, passed the time extension amendment, and on the same day the reconstructed State legislature under Gov. Alcorn again accepted the grant and conferred two-fifths of the fund on the University of Mississippi and three-fifths on an institution for negroes established by the same act and called Alcorn University. This action was satisfactory to Washington and on September 21, 1871, there were turned over to Gov. Alcorn 1,312 pieces of scrip calling for 209,920 acres of public land.

Before any sale of the scrip could be made, the legislature, on April 18, 1873, authorized that it be used to aid in the construction of the Vicksburg & Nashville Railroad. An injunction prevented action until the friends of the college in the legislature were able to amend the act and to introduce conditions which ultimately prevented acceptance by the railroad.

After this narrow escape the scrip was put on the market and by January 1, 1874, all had been sold at 90 cents per acre, bringing a total of \$188,928 to be divided, three-fifths to Alcorn University and two-fifths to the University of Mississippi.

The endowment for Alcorn University, amounting to \$113,351.80, was first diminished by a payment of \$10,500 for part of the university tract; the remainder, \$102,851.80, was invested as a permanent interest-bearing fund in Mississippi State bonds, at a discount, to the amount of \$123,150, on which interest at 8 per cent was paid. The share of the University of Mississippi was handled in the same manner except that no deduction was made for the purchase of land.

While a total income of 8 per cent was received on the fund, only a portion, amounting to 5 per cent on the principal, was turned over

to the colleges, the remainder being applied to swell the capital of the fund. As a result, when it became necessary to reinvest the fund on January 1, 1876, an investment of \$227,150 was made in 5 per cent State bonds.

It was soon found that Alcorn University could not use all the funds provided for it. Besides three-fifths of the income from the land-grant fund, it had been granted liberal appropriations by the State legislature. In 1874, following several disturbances or "strikes" at the institution, its funds were substantially reduced, and its share of the land-grant fund was divided with Oxford University, another college for colored students. Finally, by act of February 28, 1878, the legislature deprived Oxford University of all participation in the fund. Alcorn University was reorganized under the title "Alcorn Agricultural and Mechanical College of the State of Mississippi," and received one half of the income from the fund, while the other half went to the institution for white students.

The University of Mississippi was established on February 20, 1840, and opened for students on November 6, 1848. With the exception of the Civil War period, 1862 to 1865, it has been in continuous and successful operation. When the trustees, by the act of the legislature of May 13, 1871, were called upon to establish a college of agriculture, they found it difficult to get away from the cultural and academic ideas of college education.

After several meetings of the board to discuss ways and means, a professor of agriculture was appointed, and 25 acres of the university's land were set aside for a demonstration farm. Two years later no students in agriculture were registered, and the 25-acre farm was still in process of development. Until 1876 efforts to develop the agricultural department were continued in a small way, when the legislature, seeing the lack of success, began to consider other means of using the land-grant endowment, which finally took definite form in the organization of the college of agriculture as a separate institution in 1878.

On February 28, 1878, the legislature incorporated the Agricultural and Mechanical College of Mississippi, an institution for white students, and endowed it with one-half of the income from the land-grant fund. The State university was deprived of this income.

Taking advantage of the provision that 10 per cent of the capital of the fund might be used for the purchase of land, \$15,000 was used to purchase property in Oktibbeha County, 1½ miles from Starkville, for the site of the agricultural and mechanical college for whites. The citizens of the town and county provided \$9,000 additional. Here the institution was opened for students in 1880.

The deduction for the purchase of land was charged ~~entirely~~ against the half interest of the college for whites, thus

capital in the fund to \$98,575, at which figure it remains, while Alcorn receives the income from \$113,575.

The entire fund is held in the State treasury, invested in State bonds at 6 per cent and due in 1928. The Alcorn Agricultural and Mechanical College receives an income from the fund of \$6,814.50 per annum, and the Mississippi Agricultural and Mechanical College receives \$5,914 per annum.

*Missouri.*—The State University was established by act of the State legislature, approved February 11, 1839. The institution was located at Columbia June 24 of the same year. In the spring following, instruction in academic branches began.

On March 10, 1863, the State legislature accepted the provisions of the act of Congress granting 330,000 acres to the State, and the usual struggle ensued as to the disposition of the fund. It was seven years before a conclusion was reached. On February 24, 1870, a bill was passed establishing an agricultural and mechanical college at Columbia and a school of mines at Rolla, both as departments of the University of Missouri. Three-quarters of the income from the fund was granted to the agricultural and mechanical college and one-quarter to the school of mines.

The lands granted were selected within the limits of the State, and, after appraisal by the board of curators, almost all of them were sold. During the management of the lands there was a constant change in the amount of acreage belonging to the State. A quantity of the land was located along projected railways at double minimum rates; afterwards the routes were changed and allowances were made in land to the State for the change back to ordinary minimum locations.

On February 6, 1889, the State had selected 329,651.46 acres from the grant of 330,000 acres. Of this land, 54,515.13 acres were double minimum; there had been deducted errors in computation amounting to 4,626.68 acres to the disadvantage of the State. In addition, 160 acres had been granted twice, while 586.34 acres which had been approved by the Secretary of the Interior had been previously sold to other parties. These various items aggregated 59,888.15 acres, giving a total actual receipt in lands by the university on February 6, 1889, of 269,763.31 acres. Since that date there have been granted to the State the following additional allotments:

May 14, 1890, 5,228.86 acres, after deducting 120 acres for double minimum selections.

September 8, 1900, 2,000 acres; and April 13, 1907, 40 acres.

This makes a total of 277,066.76 acres which have actually been received by the State and university under the terms of the Federal grant of 1862.



As fast as the lands were sold the proceeds were turned into the State treasury, and certificates of indebtedness were issued bearing 5 per cent interest. In this way \$349,881.19 of the fund has become part of the irreducible State debt. Under a constitutional amendment adopted in 1902 all subsequent sales must be invested in municipal, county, school district, or drainage bonds of Missouri. These investments in 1914 amounted to \$16,000.

The interest for the year 1914-15 was \$17,994.06 and was used for the two colleges in the proportion provided by law.

*Montana.*—On February 16, 1893, the State legislature incorporated the Montana College of Agriculture and Mechanic Arts and placed its control in the hands of the State board of education. This board also controlled the State university and other State institutions. The actual management of the college was invested in an executive board of five members, appointed by the governor with the consent of the board of education.

The board of education located the college at Bozeman, on a tract of 180 acres presented by the city of Bozeman for the purpose. Work was begun on September 15, 1893, in the buildings of the Bozeman Academy and High School.

In the State enabling act of February 22, 1889, Congress conferred on Montana two grants of land in aid of colleges of agriculture and the mechanic arts. One, of 90,000 acres, was made in lieu of the grants to the several States in 1862 and was therefore subject to all the conditions of the 1862 grant; the other, of 50,000 acres, was a free gift conditioned only by the requirements that it be used for a college of agriculture and mechanic arts and that the minimum sale price be \$10 per acre; this minimum sale price applies to all of Montana's lands.

All the State lands are in charge of a State board of land commissioners, which locates, sells, or rents them, turning the proceeds over to the State treasurer for investment for the use of the college, as provided by law.

The State legislature, in order to obtain funds for the construction of college buildings and noting the lack of specific restrictions on the 50,000-acre grant, voted March 6, 1895, to authorize the State board of land commissioners to issue bonds to the amount of \$100,000, due in 25 years, with the 50,000-acre grant as security, and to use the proceeds of this bond issue for buildings and equipment of the college. Some of the citizens of the State deemed this interpretation of the conditions surrounding the grants as erroneous, and held that both grants should be subject to the restrictions contained in the Federal land-grant act of 1862. The case was taken into court, but before a decision could be reached the State supreme court decided a similar case regarding the normal school lands (State v. ~~\_\_\_\_\_~~ ol.

33, Montana Reports, p. 365) which seemed to favor the contention of those persons who held that the same conditions applied to both grants and that the 50,000-acre grant had been illegally bonded for construction purposes. A State referendum vote, in 1908; directed that the 50,000-acre grant bonds be replaced by State bonds and that both grants be considered as subject to all the restrictions contained in the Federal land-grant act of 1862. Since that time the two grants have been considered as one grant of 140,000 acres.

In 1912 it was discovered that a part of the capital from the 140,000-acre grants had been invested at less than 5 per cent, and that the income had been charged with its proportionate share of the expenses of management. These errors were immediately corrected. The State treasurer on order of the State board of land commissioners on January 4, 1912, shifted securities amounting to \$203,000, using permanent school fund bonds for the purpose, so that an income of 5 per cent is obtained on all the agricultural college fund. The illegal charge for management was corrected by the legislature through an appropriation of \$19,373.32 under date of March 10, 1913, which was placed to the credit of the income fund of the agricultural college grant.

On June 30, 1914, the report of the State board of land commissioners shows the following condition of the grants:

*Condition of the land grant in 1914.*

Grants.	Acres selected and confirmed.	Acres sold.	Acres rented.
90,000-acre grant.....	88,967.75	18,835.36	66,503.92
50,000-acre grant.....	49,986.38	12,182.35	.....
Total.....	138,954.08	31,017.71	66,503.92

*Investment of the capital.*

Grants.	Bond investments.	Deferred payments.	Cash on hand.	Total.
90,000-acre grant.....	.....	\$72,498.27	\$21,910.34	\$94,408.61
50,000-acre grant.....	.....	87,179.38	16,615.93	103,795.31
Both grants.....	\$334,950.00	.....	.....	334,950.00
Total.....	334,950.00	159,672.65	38,526.27	533,148.92

The income for the year 1914-15 was as follows:

Income from rental of 66,503.92 acres.....	\$8,432.10
Interest on deferred payments.....	6,327.21
Interest on invested funds.....	16,934.51
Total.....	31,693.81

By an act of the legislature, approved March 14, 1913, the university at Missoula, the college of agriculture and mechanic arts at Bozeman, the school of mines at Butte, the State normal school at Dillon, and all institutions of higher learning which may be established in the future were consolidated to form the University of Montana.

*Nebraska.*—From the first Nebraska devoted all its efforts to building up one collegiate institution, the University of Nebraska.

On February 15, 1869, the University of Nebraska was established by act of the State legislature, the trustees being authorized to establish five colleges or departments: (1) A college of literature, science, and arts; (2) an industrial college, embracing agriculture, practical science, civil engineering, and the mechanic arts; (3) a college of law; (4) a college of medicine; and (5) a college of fine arts.

In 1875 the State constitution ratified and confirmed this law.

In 1877, and again in 1899, the State legislature amended and revised the act of 1869, and provided the charter which, with slight changes in 1909 and 1911, still governs the university. The university was located at Lincoln.

Under the amendments of 1909 the Industrial College was expanded into two departments, a college of engineering and a college of agriculture, including the school of agriculture at Lincoln.

By the land-grant act of 1862 Nebraska received 90,000 acres for the agricultural college. This was accepted by the State legislature and granted to the university. A commission was appointed in 1867 to select the lands which were to be leased at 6 per cent of their appraised value or to be sold at public auction to the person submitting the highest bid over and above a fixed minimum value; at first this minimum was set at \$5 per acre, but later it was raised to \$7.

All the State's educational lands are under the control of a State board of educational land and funds which handles the rentals and sales, turning over the proceeds to the State treasurer. Two funds are maintained. The first, composed of all the receipts from the sale of lands, is invested in interest-bearing securities. On November 30, 1914, the State auditor reported the investment of this permanent fund as follows:

*Agricultural college endowment fund.*

3 per cent bonds.....	\$20, 000
3½ per cent bonds.....	101, 000
4 per cent bonds.....	194, 000
4½ per cent bonds.....	83, 700
5 per cent bonds.....	155, 500
Total bonds.....	554, 200
Normal school fund warrants at 5 per cent.....	2, 595
Cash on hand uninvested.....	3, 277
Total fund.....	560, 072

The other fund, called "University income fund," is composed of the interest on the invested funds both of the agricultural college and the university grants, interest on unpaid purchase money for land, rentals of lands, and bank interest on daily balances. For the year 1913-14 the university reported an income on this fund of \$31,096.84.

The tendency to pay more careful attention to the 5 per cent requirement in investments is shown in the report of the State treasurer for 1915-16. Permanent funds have been reinvested at increased rates, so that the fund yields an income of \$47,427.45, with the following schedule of investments:

3 per cent bonds.....	\$20,000
3½ per cent bonds.....	60,000
4 per cent bonds.....	104,000
4½ per cent bonds.....	127,100
5 per cent bonds.....	251,700
5½ per cent bonds.....	5,000
6 per cent bonds.....	7,700
Total investments.....	575,500

*Nevada* was created a State by act of Congress approved March 21, 1864. The first State legislature passed a bill, approved March 19, 1865, for the establishment of an agricultural and mechanical college to be located in Washoe County. This college, however, failed to materialize.

On July 4, 1866, an act of Congress granted to Nevada 72 sections of land for the university and 90,000 acres, in lieu of the original 1862 land grant to the States, for the college of agriculture and the mechanic arts. This act further provided that the income from the 90,000-acre grant might be diverted to the use of the school of mines.

Although Nevada immediately received the land grants to establish its higher educational institutions, there was so little demand for a college that nothing was done for some years toward the actual opening of such an institution. On March 8, 1873, the legislature provided for the establishment of the university and named Elko as its site. Here, on October 12, 1874, the preparatory department began work. The school of mines was opened in 1882. On March 7, 1885, the legislature authorized the removal of the institution to Reno, where it was reopened on March 31, 1886, with 37 students in the preparatory and mining departments. In September of the following year all the remaining departments were transferred to Reno.

From the first the university has been the only State collegiate institution and has embraced the departments of agriculture, mechanic arts, and mining, as well as the usual college courses. As might be expected, the mining interests for many years dominated other scientific subjects, and only in recent years has the college of agriculture been developed to any considerable extent. In 1895

schools of mechanical and civil engineering were introduced, which have now been combined with the school of mines to form the college of engineering.

The management of the 90,000-acre grant was intrusted to the board of regents of the State university.

By an act of Congress approved March 16, 1872, the time for accepting the grant and establishing the college by the State of Nevada was extended to May 10, 1877, and on December 31, 1878, the trustees reported that part of the 90,000-acre grant had been sold for \$45,395.38, none of which was invested.

On December 31, 1882, the capital of the fund was \$62,412.54, of which \$17,000 was invested in Nevada State bonds, issue of 1881, and \$35,000 in United States bonds at 4 per cent, with \$10,412.54 uninvested. In addition to the interest on these investments there was considerable interest on contracts for the sale of land. The full capital of the fund was composed of two items, amounts actually paid in from the sale of lands and amounts outstanding in the form of unpaid purchase money bearing a good rate of interest and secured by the lands themselves. In handling the funds it was believed that any deficit below the required 5 per cent in the interest from invested funds could be made up by any excess above 5 per cent in the interest on outstanding purchase money, and that only a net 5 per cent return on the total capital was required by the act of Congress.

From 1883 to 1899 the reports of the treasurer of the university do not mention either principal or interest of the 90,000-acre grant; the interest was evidently collected by the State treasurer and included with general State funds, while the legislature, in making its annual appropriations for the support of the university, was considered to have included this interest without specific mention to that effect, and the treasurer of the university did not distinguish such interest from other State funds in his accounts.

On December 31, 1899, the fund was again reported as principal of the 90,000-acre grant, \$128,600, with the statement that "it has about reached its maximum," evidently because all the lands were sold. This report was not strictly accurate, as the principal from the grant of 72 sections for a university was evidently included. The fund was invested in United States and Nevada State bonds, the interest going to the State treasurer and being reappropriated as in previous years by the State legislature. The interest was given as \$5,144, or about 4 per cent on the principal.

On June 30, 1915, the capital of the fund was reported at \$107,363.73, a reduction of \$21,236.27 from the report of 1899, which is evidently due to the omission of the capital of the university grant. The interest remains about 4 per cent, amounting to \$4,263.16.

Owing to the way in which this fund has been confused with others during its management, a careful and detailed investigation and computation will be necessary to determine what amounts are in default from underinvestment and from failure to turn over all interest to the university.

*New Hampshire.*—The New Hampshire College of Agriculture and the Mechanic Arts was organized as a part of Dartmouth College by act of the State legislature approved June 7, 1866. Four of the nine trustees were appointed by the trustees of Dartmouth College. The college was opened for students September 4, 1868, at Hanover.

Three years previous to its incorporation the legislature, July 9, 1863, had accepted the land grant under the act of 1862, bringing 150,000 acres in scrip to New Hampshire.

In 1867 the scrip was put on the market and sold for \$80,000, which was invested in New Hampshire State bonds at 6 per cent. In 1884 and 1885 these bonds matured, and the legislature created an agricultural college fund as part of the irreducible State debt. The State pays 6 per cent interest on this fund, giving a yearly income of \$4,800 to the college.

The college remained affiliated with Dartmouth College until 1903, when it was moved from Hanover to an independent site at Durham. This action was made possible by Mr. Benjamin Thompson, who left in his will his entire farm and practically all his property to the college.

In 1910 the college began to receive the income from the Thompson endowment of nearly \$800,000. Besides the land-grant fund of 1862 it receives the annual appropriation under the second Morrill Act and the appropriations in aid of agricultural experiment stations and for extension work.

*New Jersey.*—Rutgers College received a royal charter as Queens College on November 10, 1766. A second charter was granted on March 20, 1770. In 1771 the college work was started at New Brunswick, and in 1808 the present site was acquired. In 1825 the name of the institution was changed by the State legislature to Rutgers College in honor of Col. Henry Rutgers, of New York City, a generous benefactor.

The college began with the traditional classical course, which it has always maintained. April 4, 1864, the trustees organized science courses, and the college was declared by the State legislature to be the State college for the benefit of agriculture and the mechanic arts and the beneficiary of the 1862 land-grant fund.

The endowment of 210,000 acres in scrip was accepted by the State legislature March 21, 1863. It was sold by a special commission appointed by the legislature, bringing \$115,945.95, to which the trustees of Rutgers College added \$54.05 to make an even \$116,000,

which was then invested in 6 per cent State bonds. As these bonds matured the capital was turned in to the State sinking fund and made part of the irreducible State debt. The State now pays 5 per cent interest on this fund to Rutgers College under a law passed in 1896 (Gen. Stat. N. J., 1896, secs. 54, 55, and 56).

*New Mexico.*—On February 28, 1889, the Territorial legislature founded the college of agriculture and the mechanic arts at Mesilla Park and designated it as the beneficiary of all grants to the State in aid of colleges of agriculture and mechanic arts. It opened for its first session March 10, 1890.

On June 21, 1898, Congress granted to New Mexico 100,000 acres of land for the agricultural college, and again, in the State enabling act, 150,000 acres in lieu of the grants made to the several States under the act of 1862.

The receipts from the 150,000-acre grant compose the capital of the agricultural college endowment fund.

All State lands are handled by a State land commission which turns over the proceeds from sale or rental to the State treasurer. The treasurer is required by law to keep the proceeds of each grant in a separate account. A minimum sale price of \$3 and \$5 per acre, depending on the character of the land, has been fixed by law, or lands may be rented at an appraised value. Up to June 30, 1915, none of the 150,000-acre grant had been sold or rented and no income had been derived from it for the benefit of the college.

*New York.*—In 1903 the trustees of Cornell University caused to be prepared a most careful and elaborate history of the 1862 land grant and its relation to Cornell University. The following facts are taken from this work, called: "The history of the agricultural college land-grant act of July 2, 1862, devoted largely to the history of the land scrip which, under the grant, was allotted to the State of New York and afterwards given to Cornell University." Samuel Dumont Halliday, 1905, Ithaca Democrat Press.

The New York State Legislature accepted the grant May 5, 1863, and instructed the State comptroller to sell the 990,000 acres in scrip. Immediately a contest arose in the legislature between the friends of the State agricultural college at Ovid and the Peoples' College at Havana as to which should receive the grant. At first the Peoples' College received it, but many objections were raised and a long fight culminated in the establishment of a new institution, called Cornell University, and endowment of the new college with the land-grant fund.

New York actually received 989,920 acres in scrip, which was immediately put on the market and some of it was sold in small lots. The balance was purchased by Mr. Cornell under his famous funding plan.

The courts of New York have now determined that the agricultural college land-scrip fund consists of the money originally paid for the scrip by Mr. Cornell and others, and amounts to \$688,576.12. In 1894 the legislature ordered this sum turned in to general State funds and a perpetual certificate of indebtedness to be issued bearing interest at 5 per cent.

The resale of the scrip under the plan devised by Mr. Cornell has been very profitable to Cornell University. On August 1, 1913, the Cornell endowment fund and the Cornell reserve fund, which include the endowment obtained through the resale of the land scrip, amounted together to \$5,460,038.96.

*North Carolina.*—By a joint resolution of the general assembly, adopted February 22, 1866, North Carolina's quota of 270,000 acres in scrip was accepted on behalf of the State. On February 11, 1867, this scrip was transferred to the trustees of the University of North Carolina, to be used by them in accordance with the terms of the grant; at the same time State scholarships were provided, one for each county.

This action was of great assistance to the university at a time when it was actually destitute and heavily in debt. Its comparatively large endowment for those days of about \$200,000 had been swept away because of the war, and it had not been possible to pay the instructors even a part of their salaries;<sup>1</sup> the need for money was imperative and the land-grant fund was the only negotiable thing available. Accordingly, the trustees put the scrip on the market and entered into an agreement with G. F. Lewis and his associates, Fisher, Boothe & Co., for its sale at the market price, 50 cents per acre, \$135,000 in all. It was an unfortunate time to sell; scrip was plentiful and the market price was low; three times this sum could have been obtained by holding off a few months, but the need was pressing. Congress, also, had passed a law preventing the location of the land called for by the scrip until after the State should be reconstructed, and no one knew how long this might hold up the sale; meanwhile Lewis offered a substantial payment and offered it in cash. The trustees took the only course that seemed available to save the institution. The deal was closed; Lewis paid down \$10,000, which was immediately used for the most pressing wants of the university; the scrip was deposited in escrow with the Bank of the Republic in New York, to be delivered to Lewis when Congress should permit the locating of the lands and when Lewis should have paid the balance of the purchase price.

The Federal land-grant act allowed the legislature to authorize the use of 10 per cent of the capital of the fund for the purchase of land

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<sup>1</sup> The debts were \$103,000, besides \$7,000 arrears of salaries. To pay these there were 2,000 shares of worthless bank stock, \$25,000 of equally worthless Confederate securities, and a small amount of other securities, very little paying interest. For a whole year the only receipts from this source were \$25.



for an agricultural college. The records of the trustees show that they realized the illegality of their action in using the cash payment for settlement of needed salaries. They expected, however, that the legislature would subsequently ratify their action and permit the use of 10 per cent of the fund in the purchase of land for the college. It was argued that, since the university furnished its lands and buildings for the agricultural work, it was allowable to transfer this 10 per cent of the capital of the land-grant fund to the general fund of the university in payment for the university's land. Of course after being transferred to the general fund, the money could be used in any way that seemed most desirable. In this action the trustees clearly misinterpreted the Federal act, for the language of the 1862 land-grant act does not permit a sale of land to be implied where there is no actual transfer of title. In this case there was no real sale; the institution retained full title to its property and simply used part of it for this form of instruction.

In 1868, before the board's action could be approved by the legislature, a new board, opposed politically to the previous board, came into control of the institution. One of its first acts was to investigate the sale of the land scrip. It then tried to prevent the culmination of the deal. Lewis was notified that the university revoked its previous agreement, and the Bank of the Republic was ordered not to deliver the scrip. In all several hundred dollars were spent on lawyers and other expenses in vain. Although the market price of scrip had advanced to about \$1.40 per acre, it was held that the agreement was fair and binding. The scrip was turned over to Lewis, and \$125,000 came to the trustees for investment.

The new board of trustees, appointed by the board of education of the State, invested this amount as follows: Forty thousand dollars of old North Carolina Railway State bonds, \$40,000 of new State bonds, \$160,000 of special tax bonds.

Altogether these bonds cost \$119,000, leaving \$6,000 to be subsequently disposed of by the board.

Although the university was now open, the financial situation was not improved. The investment of the land-grant fund brought no income, as the interest on the bonds was defaulted. Owing to the general opposition throughout the State to the new administration of the university, few students enrolled; in June, 1869, there were 10 students; in 1870 there were 25—9 in college, 15 in preparatory, and 1 in irregular classes.

Meanwhile the State bonds had been hypothecated as security for loans to pay salaries and expenses, and the general assembly declared the special tax bonds void. This was the climax; with no funds and almost no students, the institution closed its doors in February, 1870, to remain closed until the reorganization of 1875.

In 1874 the trustees appointed by the board of education in 1868 having been removed by an amendment to the State constitution, a board was elected by the general assembly. This board reported on the condition of the fund and asked the assistance of the legislature in carrying out the provisions under which the scrip had been accepted by the State.<sup>1</sup> The general assembly of 1874-75 directed the State treasurer to issue to the trustees of the university a certificate of indebtedness for \$125,000, bearing interest from January 1, 1875, at 6 per cent, payable semiannually.

In 1875 the trustees, aided by private subscriptions, opened the university with 7 professors and 69 students.

About 1880 the national movement toward agricultural instruction began to produce in North Carolina a sentiment for the establishment of a separate school of agriculture. This sentiment was quickened in 1887 by the prospects of national aid. On March 7, 1885, the State legislature had authorized the State board of agriculture to seek a location for an industrial school; after consideration of several sites the one offered at Raleigh was selected. But meanwhile the plans of the friends of the school had broadened and resulted in the incorporation of a college of agriculture and mechanic arts in 1887. In addition, the general assembly ordered that the interest arising from the land-grant fund should be transferred from the university to the new college of agriculture and mechanic arts as soon as the latter should be ready to begin the work of instruction.

The college opened its doors in October, 1889, and received the income from the 1862 land-grant fund.

*North Dakota.*—At the time North Dakota was admitted to the Union, 90,000 acres of land were granted to it in lieu of the grants to the other States under the act of 1862, together with an additional grant of 40,000 acres for the same purpose, making in all 130,000 acres for the college of agriculture and the mechanic arts.

None of this land may be sold for less than \$10 per acre. The care of both the lands and the funds derived from them is carefully provided for in the constitution of the State and in the acts of the first legislative assembly.

In an act approved March 8, 1890, amended in 1891, the State legislature established an agricultural college on land provided in the State enabling act for that purpose at Fargo. Besides providing for a board of trustees and method of government, and endowing the college with the Federal grants for agricultural colleges, the act appropriated \$25,000 for the construction of the first buildings.

The first classes met in rented quarters on September 8, 1891, and it was not until January 5, 1892, that full college work was begun in

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<sup>1</sup> The act of Congress required the State to replace losses.

the new buildings. Preparatory, freshman, and special classes were opened.

Since that time progress has been steady. The State has provided for new buildings and for the support of the institution, and has supplemented the funds derived from the Federal land grants and appropriations with liberal State appropriations.

The grant of 130,000 acres of land was placed under the administration of a board of university and school lands and has been handled in the usual way of rental and sale.

The report of the commissioner of university and school lands shows the following condition of the grant on June 30, 1914:

*Land account.*

Total number of acres granted, agricultural college fund.....	130,000.00
Acres located and confirmed <sup>1</sup> .....	129,839.18
Acres sold, some on time contracts.....	93,819.49
Acres unsold <sup>2</sup> .....	36,019.69

*Permanent fund, capital.*

Total sale price, a part unpaid but drawing interest.....	\$1,220,469.02
Paid in and invested in bonds.....	455,924.54

Since 1912 the investments have been at 5 per cent, about \$141,000 having been put out at this rate. Before 1912 some money was erroneously loaned at 4 per cent, but as bonds become due all funds are being reinvested at 5 per cent. On July 1, 1914, there was an uninvested cash balance on hand of \$52,310.63.

*Income account, biennium 1912-14.*

Interest and penalties on outstanding sales contracts.....	\$86,141.84
Rentals of lands and privileges.....	5,903.05
Interest on invested funds (bonds).....	31,231.90
<b>Total biennial income for college.....</b>	<b>123,276.79</b>

In an act approved March 4, 1915, a State board of regents of five members was created to control the university, the agricultural college, the State normal school, and all other State institutions of higher education. This board supersedes the local board of control of each institution.

*Ohio.*—Under the act of July 2, 1862, Ohio received 630,000 acres in scrip. The State legislature assented to the act on February 9, 1864, and on April 13, 1865, appointed a commission composed of the State auditor, treasurer, and secretary of state to advertise and sell the scrip for the best price offered, not less than 80 cents per acre. Ohio received actually 629,920 acres in scrip.

<sup>1</sup> The balance has since been located.

<sup>2</sup> Some of the unsold lands are rented; there is no report on this number of acres.

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There was so much scrip on the market at the time that only  
20 acres were thus sold; consequently, the instructions were  
amended and the restrictions on price removed by an act approved  
April 15 1866. This act also provided that all the proceeds from  
sales should be paid in to the State treasury and to constitute part  
of the State debt on which 6 per cent interest would be paid to the  
owner. When all the scrip was disposed of, bringing from 53 to 82  
acres, a total of \$340,906.80 was realized for the entire

management of the fund the interest is computed semi-  
annually that which is not drawn by the college for support is re-  
turned to the State treasury and credited to the principal of the  
fund. In this way the fund has gradually increased, so that on June  
30, 1915, it amounted to \$524,176.50. The State pays 6 per cent  
interest on this capital for the benefit of Ohio State University.

After the acceptance of the scrip with its attached conditions  
a discussion, lasting until 1870, went on in the State legislature  
regarding the founding of the college. Several plans were proposed  
and rejected; one was to divide the fund between Miami University  
and a new college to be established in the northern part of the State;  
another proposed to endow the already organized Farmers College  
with the entire grant; still another was to unite Ohio University and  
Miami University into one strong State university and to endow the  
institution with the grant. However, all plans culminated in the  
act of March 22, 1870, whereby the Ohio Agricultural and Mechanical  
College was incorporated.

The trustees were authorized to locate the college—

upon land, not less than 100 acres, which in their judgment is best suited to the wants  
and purposes of said institution, the same being reasonably central in the State and  
accessible by railroad from different parts thereof.

After carefully considering several propositions, they selected a  
location near Columbus (now within the corporate limits of the city)  
on a site of 325 acres costing \$117,508. Franklin County provided  
\$200,000 in 7 per cent bonds; and citizens of Columbus, together  
with two railroads, supplied \$28,000 more. Building operations  
were begun at once and on September 7, 1873, the institution opened  
its doors to students.

In 1878 the legislature reorganized the college and changed its  
name to Ohio State University. It receives all the Federal aid to the  
State for colleges of agriculture and the mechanic arts.

*(Alabama.)*—The first legislature of the Territory of Oklahoma on  
November 25, 1890, adopted a resolution accepting the conditions  
of the second Morrill Act of 1890 and establishing an agricultural  
and mechanical college at Stillwater in Payne County. The county  
provided \$10,000 in bonds for the college. The law provided that the

State board of agriculture should be the board of regents. The Oklahoma Agricultural and Mechanical College opened its doors to students in the fall of 1891.

In the State enabling act of 1906 Congress granted to the State, for the agricultural and mechanical college and for the colored agricultural and normal university, one-third of the thirteenth section grant, and for the agricultural and mechanical college alone, 250,000 acres of land.

It does not appear that either of these grants was in lieu of the grants to the States under the act of 1862, or that they had any of the conditions of the 1862 grant attached to them. The grant of 250,000 acres was a gift to the new State restricted only by the condition that it should be used for the benefit of a college of agriculture and mechanic arts. Undoubtedly this freedom from restriction was due to the fact that Oklahoma, by accepting the second Morrill Act of 1890 in its territorial convention, had bound itself to practically all the conditions as to the character of instruction contained in the first Morrill Act of 1862 except that of required military training.

All the lands of the State are under the control of the commissioners of the land office of Oklahoma. The 250,000 acres of the agricultural and mechanical college grant are administered with other lands for college purposes in a fund called "New college funds." They have been handled by sale and lease with great profit to the State and college, the proceeds being invested in bonds and farm loans so that a substantial income is regularly available for appropriation by the legislature to the use of the agricultural and mechanical college.

In 1916 all of the 250,000-acre grant had been located and confirmed, but 61,605.72 acres were unsold. Some of the lands had been sold, but reverted to the State through nonpayment of installments. There was an accumulated capital of \$103,482.72 represented by bonds and cash on hand, while \$732,155.55 were represented in deferred payments at 5 per cent interest.

*Oregon.*—The Legislature of Oregon duly accepted the agricultural college grant of 90,000 acres, and by act of October 27, 1868, appointed a committee of three citizens to locate the lands. The committee reported in July, 1870, that there had been located and confirmed 89,907.78 acres. In the same year the legislature conferred the endowment on a private corporation called Corvallis College, designating it as the State college of agriculture.

The board of school land commissioners was authorized to sell the lands for not less than \$2.50 per acre, the proceeds to be loaned at not less than 10 per cent interest on the security of real estate mortgages. All interest was to be turned in to the State treasury for the support of the agricultural college. In 1882 the rate of interest was

reduced to 8 per cent, and in 1889 to 6 per cent. The capital of the fund is retained by the State treasurer, subject to withdrawal for investment as above.

For a long time Corvallis College received little or no income from the fund, as few sales and no investments were made. It was aided, however, by direct State appropriations. In return for these the legislature imposed restrictions on the management of the college, and finally, in response to a demand that the State own its own college, the legislature on February 11, 1885, took over Corvallis College and reorganized it as a State college under the name of Oregon Agricultural College.

The 89,907.78 acres composing the agricultural college endowment were sold slowly. Located in 1870, there was no income from them for many years; in 1883-84 the college treasurer reported an income of \$7,920.28 from interest and rentals, but failed to report the amount of capital; in 1891-92 the income was \$9,717.42. On June 30, 1915, the college reported all but 920 acres of the grant sold. The capital was given as \$202,113.99, invested in 6 per cent securities and giving an annual income of \$11,267.08.

*Pennsylvania.*—The origin of an agricultural college in Pennsylvania dates back to April 13, 1854, when an act of the legislature was passed incorporating the Farmers' High School of Pennsylvania. The petitioners for the act included the governor of the Commonwealth and the members of the State board of agriculture. The next move was on February 22, 1855, when another charter was granted and organization effected shortly after. A tract of land of 200 acres was purchased in Harris Township, Center County, and soon after 200 acres more were added by donation. At first the State gave no aid to this institution, but in an act approved May 20, 1857, the legislature appropriated \$50,000 to it, provided that private funds for as much more should be secured. This condition was met, and the funds were used to begin the construction of buildings. Students were received on February 20, 1859, and the first class, numbering 12 students, was graduated in December, 1861.

Throughout the early period it was a farm school with practical field work for all students. Although its official title was "Farmers' High School," yet the course of study was of a high scientific grade. Without State aid, except the appropriation for buildings, the expense of annual maintenance necessarily came from the friends of the institution and from student fees; and since small fees and student labor for support were fundamental principles of the school, the result was a constant financial struggle.

In 1862 the name was changed to "Agricultural College of Pennsylvania," in recognition of the grade and character of the work done, but soon the college closed its doors through the enlistment of its

entire student body in the Pennsylvania Volunteers. In 1864 it again began work.

Meanwhile Congress passed the act of 1862 in aid of colleges of agriculture and mechanic arts, and Pennsylvania came into its share of the land grant, 780,000 acres in scrip, through its acceptance by the legislature on April 1, 1863. The usual rivalry among the colleges of the State for the endowment fund began, but the friends of the Agricultural College of Pennsylvania prevailed, and the institution was endowed with the grant by act of the legislature approved February 19, 1867. Unfortunately the grant did not impart the life that was expected, and the college continued to struggle along hampered by debt and torn by the conflicting theories regarding the new form of education. Up to 1879 the manual labor system was universally in practice, but when in 1870 a course in arts and science was introduced, manual labor seemed inappropriate. For nine years this question was under discussion and continued until 1879, when manual labor was required only to the extent necessary for its educational value. About this time the problem of industrial education was solved on its present basis. As a fitting climax the State now came forward with appropriations to clear the institution of debt. From this point its progress has been steady.

In the act accepting the grant of 780,000 acres in scrip, the surveyor general of the State was instructed to obtain the scrip, to sell it, and to invest the proceeds. The governor, auditor general, and the surveyor general were appointed a committee to prescribe rules and regulations for its management.

The surveyor general realized \$439,186.80 from its sale. About 10 per cent, \$43,886.50, was used to purchase experimental farms for the college and the balance was invested in United States and Pennsylvania State bonds bought at a premium and giving \$381,500 face value of investment. The assembly on April 3, 1872, ordered these bonds sold and a 50-year State bond for \$500,000 at 6 per cent interest issued to the college to represent the land-grant endowment fund. Pennsylvania State College receives \$30,000 a year income from this source.

On May 13, 1887, the assembly authorized the college to sell part of the farm which had been purchased out of the land-grant fund. The proceeds from this sale, \$17,000, were turned over to the State treasurer and invested in 6 per cent State bonds. The college receives the interest on these bonds.

*Rhode Island.*—The act of Congress of 1862 gave Rhode Island 120,000 acres in scrip, which were accepted by the State legislature in January, 1863. The governor was instructed to receive the scrip and to hold it subject to the further orders of the assembly; it was also ordered that Brown University be the beneficiary ~~of the grant~~

upon the conditions that it maintain a scientific department and allow free tuition to a certain number of students nominated by the legislature.

The scrip was turned over to Brown University and by it sold for \$50,000, payable in annual installments from August 30, 1866, to August 31, 1870, when the full amount had been received and invested as follows:

Rhode Island 6 per cent State bonds.....	\$49,498.95
Cash deposited in Rhode Island Hospital Trust Co. at 7 per cent interest..	501.05
Total.....	50,000.00

In 1887, as an outcome of the Hatch Experiment Station Act, the assembly appointed a committee to consider the advisability of establishing a State college rather than to extend further aid to Brown University. In accord with the report of this committee on March 23, 1888, the State agricultural school was established at Kingston. On May 19, 1892, its title was changed to "Rhode Island College of Agriculture and Mechanic Arts" and its internal organization carefully reorganized.

The college was to receive the original Federal endowment under the act of 1862, but Brown University objected to relinquishing it and carried the case to the courts. At the first trial the decision favored the State, but Brown took an appeal and it began to look as if a long contest were ahead when the assembly in April, 1904, passed a compromise act giving Brown University \$40,000 cash in return for the surrender of all claims on any of the agricultural college grants. Brown, no doubt influenced by the Yale case in Connecticut, accepted this compromise, thus allowing the college of agriculture to receive the grant without further contest.

By act of May 4, 1909, the name of the college was changed to "Rhode Island State College."

On December 31, 1914, the \$50,000 comprising the capital of the fund was on deposit with the Industrial Trust Co. in two accounts, the joint interest being about 4 per cent, actually \$2,035.68. The assembly makes up the deficit by a regular annual appropriation, so that the college receives a full 5 per cent income, \$2,500.

*South Carolina.*—Under the Federal act of 1862 South Carolina became entitled to 180,000 acres in scrip, but owing to the Civil War it was not until 1868 that the new State constitution, among other provisions regarding education, directed that the grant be accepted and an agricultural college organized. The first legislative assembly thereafter formally accepted the conditions of the grant and ordered that the scrip be sold and the proceeds invested in United States or South Carolina bonds.



As far as can be traced, the scrip for 180,000 acres was sent to the State fiscal agent in New York, H. H. Kimpton, who reported that it was sold for 72½ cents per acre and that the \$130,500 was invested in \$191,800 worth of South Carolina State 6 per cent bonds. Later he reported that these bonds had been hypothecated as security for the State debt held in New York. This seems to be the end of both scrip and bonds.

The legislature made an appropriation to pay one year's interest, but only \$6,836 was received by the college.

For 10 years nothing more was heard of the fund until in 1879 the State legislature, evidently recognizing that it was lost, passed an act directing the State treasurer to issue a perpetual State bond for \$191,800 at 6 per cent in favor of the University of South Carolina. This bond is still extant and represents the 1862 land-grant fund.

At the time of accepting the grant the State legislature was composed of an overwhelming preponderance of negroes. It was therefore no surprise that in 1872, when providing for a college to receive the benefit of the grant, the legislature established the college as a part of Claflin University. While this institution made no restrictions as to the color of its students, the admission of negroes had the effect of preventing the white students from attending. Although this institution was nominally endowed with the land-grant fund, the fund had already passed through the manipulation resulting in its total disappearance, and no actual benefit was derived therefrom.

The act of 1879 restoring and re-creating the agricultural college endowment fund also provided that the defunct South Carolina College should reopen as an agricultural and mechanical college for whites and should receive one-half of the interest from the land-grant fund. Accordingly, the college reopened in 1880 under the title "Agricultural and Mechanical College of South Carolina." For two years it continued its independent course until, in 1882, it was merged into the revived South Carolina College, which was itself a part of the University of South Carolina. The Claflin agricultural college combination was also made a part of the university and continued to receive one-half of the yearly interest.

In November, 1889, the State legislature accepted the trust left by Thomas G. Clemson and established an agricultural and mechanical college on his Fort Hill plantation. This institution, called "Clemson College," in honor of the donor of its principal endowment, was opened for students in July, 1893. In the act creating it the legislature endowed it with the privilege tax on fertilizers and transferred to it the half interest in the 1862 land-grant fund previously received by the University of South Carolina. Clemson College now receives all the grants to South Carolina in aid of colleges of agricul-

ture and mechanic arts except the portion provided for the colored college.

In 1896 the legislature divorced Claflin University and the colored agricultural and mechanical college and created a new State institution called "The Colored Normal, Industrial, and Agricultural College of South Carolina." This school divides the interest of the 1862 land-grant fund with Clemson College. Each receives a yearly income of \$5,754 from the fund.

*South Dakota.*—The founding of the agricultural college in South Dakota does not seem to have been dependent on any particular Federal grant in aid. It was in 1881 that the Territorial legislature made the first move, which was continued in 1883 by an act authorizing a bond issue of \$25,000 to build and equip the college buildings on the property belonging to the Territory at Brookings.

Another bond issue in 1885 provided land for the experimental farm, additional buildings, and equipment. The institution was opened for students September 24, 1884, so that upon the organization of the State in 1889 the college was in full operation.

On February 22, 1889, Congress passed the State enabling act for Montana, Washington, North Dakota, and South Dakota. This was accepted by South Dakota and a State constitution adopted October 1, 1889. The enabling act gave South Dakota 120,000 acres for the agricultural college in lieu of the 1862 grant and an additional grant of 40,000 acres restricted only by the requirement that it should be used for an agricultural college.

All lands are controlled by a State land board, which locates and handles them in the usual way, by lease and sale. Proceeds are turned over to the State treasurer, who maintains two funds. One, the permanent agricultural college fund, is composed of receipts from sales of land and is a permanent endowment fund; the other, the local and endowment agricultural college fund, is composed of interest on invested funds (permanent agricultural college fund), interest on unpaid contracts of sale, rentals of lands, and collections from the college, and is used for general maintenance.

For the year ending June 30, 1914, the land-grant fund was reported as follows:

*Lands reported by the commissioner of public lands.*

Total acres in both grants.....	160,000.00
Acres patented.....	160,000.20
Acres sold.....	16,039.62
Acres leased.....	61,604.19

*Capital account.*

Total price of all lands sold.....	\$317,296.03
Capital of endowment fund.....	128,804.87
Amount outstanding on deferred payments.....	188,872.83

All the capital is invested in 5 per cent loans; the deferred payments bear 6 per cent interest. Leases are subject to a reappraisal every five years, with a consequent change in rent.

*Income account, report of State treasurer.*

Received from leases of land.....	\$16,071.23
Received from interest on permanent fund.....	5,242.70
Received from interest on deferred payments.....	10,964.57
<b>Total income for the college.....</b>	<b>32,278.50</b>

The South Dakota State College of Agriculture and Mechanic Arts is under the management of a State board of five members, called the "regents of education," which board controls all the higher educational institutions of the State.

*Tennessee.*—September 10, 1794, Blount College received a charter from the Territorial legislature of the territory south of the Ohio River and was established at Knoxville.

On April 18, 1806, Congress authorized the establishment of two colleges in Tennessee and endowed each with a grant of 50,000 acres of public lands. The legislature thereupon, on October 26, 1807, incorporated the East Tennessee College as one of the two authorized institutions, placed its location 2 miles from Knoxville, and provided that it should absorb Blount College.

East Tennessee College, like all the early colleges, had a hard struggle for existence. In 1840 the legislature changed its name to East Tennessee University. In 1860–61 the institution had the most profitable year of its history up to that time, and its affairs seemed to be finally in prosperous condition; a medical department had been opened, and the number of students in all departments was increasing. But the war ended all this. First the Confederate and then the National troops used the buildings for hospital and barracks, so that only the medical school continued any sort of exercises.

In the reorganization after the war little was left but the bare grounds and buildings. However, the institution was reopened in 1866 with about 75 students, continuing its progress without a break to the present time. In 1869 it received the national land-grant endowment of 300,000 acres in scrip, at the same time organizing an agricultural college as an integral part of the university. This college was later expanded into the Tennessee Industrial College. On March 10, 1879, the legislature changed the name East Tennessee University to University of Tennessee. It is the State agricultural college and receives all the Federal aid to the State for agricultural college purposes except that for negro institutions.

On February 1, 1868, the State legislature accepted the act granting 300,000 acres in scrip to the State, and on January 16, 1869, desig-

nated the East Tennessee University as the beneficiary. As the time for accepting the grant had expired before the State could take action, a joint resolution of Congress, February 28, 1867, was necessary to legalize the action.

The scrip was sold to G. F. Lewis for the high price, as the market was then, of 90½ cents per acre, and brought \$271,875. The Manhattan Bank of New York was made State fiscal agent, and, on order of the State legislature, invested the proceeds as fast as received in Tennessee State bonds at 6 per cent. Ultimately there were \$396,000 worth of bonds purchased and turned over to the university.

In these transactions expenses amounting to \$3,308.55 were charged against the capital of the fund, while an unexpended balance of \$466.40 was transferred to general State funds, making a total of \$3,774.95 used from the principal of the land-grant fund; the State also failed to pay the interest on the bonds in some years and in others paid it in warrants which had to be cashed at considerable discount, so that, in this way, the university lost about \$12,000 from its income fund.

In 1881 the legislature made an appropriation of \$3,774.95 to replace the amount taken from the capital of the fund and appointed a committee to investigate the losses of income. This committee has never reported, and no adjustment has been made.

The fund now consists of the original amount, \$396,000, invested in State certificates of indebtedness at 6 per cent and \$4,000 (the \$3,775 appropriated by the legislature plus \$225 added by the university) invested in certificates of indebtedness at 5 per cent, making a total of \$400,000 and giving an annual income of \$23,960 to the University of Tennessee.

*Texas.*—Although in 1862 there were millions of acres of unoccupied land in Texas, yet, because of its unique position as an independent and sovereign nation at the time it was admitted to the Union, there were no public lands in the State belonging to the Federal Government; therefore the grant of 180,000 acres under the agricultural college act of 1862 came in the form of scrip.

The State legislature accepted the grant November 1, 1866, and on April 17, 1871, established the agricultural and mechanical college, making it the duty of the governor to appoint three commissioners to determine its location. This commission selected a site in Brazos County, which became known as "College Station," and on October 4, 1876, the college was opened to students.

The 180,000 acres in scrip were soon sold for \$174,000, which was invested in 7 per cent gold frontier defense bonds of the State.

During the nine years between the sale of the scrip and the opening of the college the accumulated interest amounted to \$35,000 which was added to the principal, making a total fund of \$209,000.

On March 1, 1910, the \$174,000 bond issue was refunded; \$170,000 was placed in 3 per cent bonds and \$4,000 was spent for running expenses of the college. On July 1, 1906, the \$35,000 bond issue was also refunded in 3 per cents.

The legislature of 1915 made an appropriation of \$4,000 to replace the money improperly spent in 1910 and another of \$24,358.33 to adjust the deficit in the rate of interest, and directed that the land-scrip fund, amounting to \$209,000, be invested at 5 per cent interest; the Agricultural and Mechanical College of Texas receives the annual income from the State treasurer.

The constitution of 1876 made the college a branch of the University of Texas, but as no change was made in the board of directors the institution continues to manage its affairs independently.

*Utah.*—The agricultural college of Utah was founded March 8, 1888, when the legislative assembly accepted the terms of the 1862 land-grant act. Utah received 200,000 acres of land for the agricultural college.

The State assembly appropriated \$25,000 for buildings and the county of Cache and city of Logan gave 100 acres of land as a site. The first students were admitted in September, 1890.

The college is under the control of a board of trustees of 13 members, comprising the secretary of state ex officio and 12 members appointed by the governor. In 1913 the "Branch of the Agricultural College" located at Cedar City was placed under the control of the agricultural college board. The college also administers several State service bureaus.

The grant of 200,000 acres is in charge of a State board of land commissioners, which locates the lands and handles them in the usual way of rental and sale. A minimum price of \$2.50 per acre has been fixed by law.

The report of the secretary of the land board for the period ended November 30, 1914, gives the following condition of the grant:

<i>Lands.</i>	<i>Acres.</i>
Agricultural college grant.....	200,000
Selected and confirmed <sup>1</sup> .....	195,663.65
Sold <sup>2</sup> .....	181,484.19

*Capital of the college fund.*

Total sale price of all lands sold to date.....	\$334,033.06
Amount paid in of the selling price.....	194,136.74
Amount invested.....	189,656.68

The investments are in loans on approved farm property at 6 per cent and State and municipal bonds and warrants at 4½ to 6 per cent.

<sup>1</sup> Acres selected but not confirmed, 3,829.70.

<sup>2</sup> Number of acres under lease not given.

*Income for the year ended Nov. 30, 1914.*

Interest on invested funds.....	\$8, 605. 60
Interest on unpaid purchase money.....	2, 853. 47
Rentals on leased lands.....	1, 296. 83
Total.....	12, 755. 90

*Vermont.*—The Legislature of Vermont, on November 2, 1791, passed an act incorporating a university at Burlington, which was called the University of Vermont. College work was begun in 1801, having been preceded for one year by preparatory work conducted by the president in his residence while the college building was being erected.

Under the land-grant act of 1862 Vermont was entitled to 150,000 acres in scrip, which it received by the acceptance of the legislature on October 29, 1862. A commission of two, Homer E. Royce and John B. Page, was appointed to investigate ways and means of disposing of the scrip. Following the report of this commission, the scrip, calling for 149,920 actual acres, was put on the market and sold for \$122,626.40. In December, 1866, when the money was invested, it had accumulated considerable bank interest, so that a total investment of \$135,500 in 6 per cent State bonds resulted. These bonds have been renewed from time to time as they came due and will fall due again on June 1, 1932. They bear interest at 6 per cent and are retained by the State treasurer, who pays the interest to the university.

About the same time that the scrip was sold the legislature chartered an agricultural college to receive the benefit of the fund and authorized its trustees to locate a site. Among the trustees was the Hon. Justin S. Morrill, the author of the act under which the fund was obtained. It is a commentary on the strangeness of affairs that for one year this board combed the State for a site, and not one locality offered sufficient inducement to warrant the locating of the college. Finally the author of the act which caused the founding of agricultural colleges in so many other States had to confess a total failure in his own State. On November 9, 1865, the attempt to found a separate agricultural college was abandoned. The legislature combined the University of Vermont and the unlocated agricultural college under the joint title, "The University of Vermont and State Agricultural College," and located it on the property of the university at Burlington. Middlebury College and Norwich University were authorized to become parts of the university, but declined.

*Virginia.*—On January 27, 1870, Congress passed the act reestablishing the State of Virginia. The new State constitution adopted in 1869 went into effect and the reconstructed legislature was called for its first meeting on February 10, 1870. At this meeting the land-grant act was accepted, securing to the State 300,000 acres in scrip.

This scrip was placed in the hands of the board of education, composed of the governor, the attorney general, and the superintendent of public instruction, and was sold on May 1, 1872, for \$285,000.

On March 19, 1872, the legislature after a long struggle, authorized the division of the fund, one-third to Hampton Institute and two-thirds to a new institution to be called the Virginia Agricultural and Mechanical College. This act also authorized the expenditure of 10 per cent of the capital for the purchase of land.

Of the \$95,000, Hampton's share, \$9,500, was used to buy 72 acres of additional land, and the remainder was invested in 6 per cent State bonds at a discount, serving to buy \$172,156 worth of bonds.

A similar disposition was made of the \$190,000, the portion given to the Virginia Agricultural and Mechanical College; and bonds to the amount of \$344,312 face value became its endowment. All the bonds are held by the State board of education, the interest going regularly to the institutions.

The act of March 19, 1872, which organized the agricultural and mechanical college for whites and disposed of the scrip, also authorized the taking over of Preston and Olin Institute at Blacksburg as a site for the new college.

In 1896 the legislature added the words "and Polytechnic Institute" to the title of the college.

Hampton Normal and Agricultural Institute, the Negro college, was established in June, 1867, on a farm known as "Little Scotland," lying on Hampton River, a small navigable arm of Hampton Roads. Students were first admitted in April, 1868. On June 4, 1870, it was chartered as a semiprivate educational institution. The school now is one of the two largest and best-known schools for Negroes in the world. Its plan is based on labor as a means of education. From the humble beginning of 1868 it has progressed so that for 1915 its report shows total annual expenditures of over \$585,000, with an investment of over \$4,000,000 in lands, buildings, and equipment. It still receives the income of \$10,329.36 per year from the 1862 land-grant fund.

*Washington.*—Washington, in its State enabling act of February 22, 1889, received 90,000 acres of land as an endowment for an agricultural college.

The first legislative assembly, on March 28, 1890, organized the college under the title of "The Agricultural College, Experiment Station, and School of Science of the State of Washington." It conferred on the new college all the Federal grants in aid of agricultural colleges, experiment stations, and schools of science. The institution was placed under the management of a board of regents of five mem-

bers appointed by the governor and its location was fixed at Pullman. In 1905 the name was shortened to "The State College of Washington."

All the lands granted to the State are in charge of a State land commissioner, who locates and handles them in the usual way of rental and sale. Receipts are turned over to the State treasurer, who invests the capital in interest-bearing securities and holds the income from investments and rentals to be appropriated by the legislature for the support of the college.

On October 1, 1914, the endowment was reported as follows:

<i>Lands.</i>	
Acres in original grant.....	90,000.00
Acres located and confirmed.....	89,438.21
Acres sold.....	23,506.32
<i>Capital.</i>	
Total selling price of lands.....	Not reported.
Amount paid in.....	\$247,608.36
Amount invested in securities.....	247,325.00
<i>Income for the year ended June 30, 1914.</i>	
Interest on invested funds.....	\$12,345.67
Interest on deferred payments, from leases and from privileges.....	6,840.68
Bank interest on daily balances.....	240.68
Total.....	19,426.96

*West Virginia.*—This State was created and admitted to the Union on June 20, 1863. The first legislative assembly, by an act approved October 3, 1863, accepted the grant of 150,000 acres in scrip, but because of the unsettled condition of the country, the State did not receive it until Congress, by a special act dated April 14, 1864, extended the provisions of the land-grant act to the State.

Shortly after the scrip was received it was sold for \$90,000 and the money invested in \$90,000 worth of United States "currency sixes."

On January 9, 1866, the trustees of Monongalia Academy, at Morgantown, tendered to the State all their property for the foundation of the new agricultural college. On January 30, 1867, the legislature accepted the gift and on February 7, 1867, passed an act reaffirming this acceptance and establishing the Agricultural College of West Virginia, at Morgantown. To its trustees were turned over the \$90,000 in 6 per cent bonds forming the land-grant fund. The property donated by Monongalia Academy, together with gifts from the citizens of Morgantown—lands, buildings, cash, bonds, bank stock, books, and personal property—was worth \$50,390.

June 25, 1868, the legislature authorized the board of visitors to sell the academy proper and to invest the proceeds in new buildings on the main grounds at Morgantown. About \$15,000 was so used.



On December 4, 1868, the legislature changed the name of the college to "West Virginia University" and the board of visitors to a board of regents. This same year it increased the land-grant endowment by a gift of \$10,000 and again in 1871 by another \$10,000.

Until 1909 the control of the institution was in the board of regents. By an act approved February 27, 1909, the management of all the State institutions was divided between two State boards. The financial affairs are under the board of control, of three members, and the academic affairs are under a State board of regents, composed of the State superintendent of schools and four other members.

The State board of control now has charge of the funds of West Virginia University, including the land endowment fund. No attempt has ever been made to segregate the endowment received from the sale of scrip from that received from legislative appropriation, all endowment funds being kept in one account.

On June 30, 1914, the endowment fund amounted to \$116,500, invested in various securities bringing from 5 to 6 per cent interest and yielding an annual income of \$6,500 for the university.

*Wisconsin.*—Although the first movement toward the establishment of a State university began in 1836, under the Territorial government, it was not until the State constitution of 1848 made provision for it that there was any prospect of the institution being actually opened. The first State legislature passed an act incorporating the university and appointing a board of regents, July 26, 1848. During the first year thereafter the regents held several meetings, at which the opening of a preparatory department was discussed and several sites for the university were considered. Finally, "College Hill," at Madison, was selected in February, 1849, where the preparatory department was opened in a building loaned by the people of Madison. The efforts of 14 years had finally borne fruit. On August 4, 1850, college classes were established. The first college building was erected in 1851.

The agricultural college land grant of 240,000 acres was accepted by the State legislature on April 2, 1863.

The close of the war saw a renewal of the university's prosperity. Women had been admitted during the dark days; so now a general reorganization seemed necessary. An act approved April 12, 1866, provided that the university should receive the agricultural college endowment and other substantial State aids in addition to all its former grants and endowments; the State also now began to extend assistance by direct appropriation for the first time in the history of the university.

The agricultural college grant, amounting to 240,005.37 acres, was placed in charge of a commission of school and university lands. A minimum price of \$1.25 per acre was obtained, 25 per cent cash

and the balance on 10 years' time at 7 per cent interest. All but 40 acres were sold up to 1912. The money received from sales was turned over to the State treasurer and invested in interest-bearing securities.

The following tabulation shows how the high rates of interest permitted profitable investment at first, coming to a maximum in 1883; and how, since that time, the decreasing interest rates have gradually lowered the income until at the present time it is found impracticable to obtain even the required 5 per cent:

*Income from the land fund.*

Year.	Capital.	Income.	Acres of unsold land.	Year.	Capital.	Income.	Acres of unsold land.
1866.....	\$8,061.85	\$144.93	.....	1882.....	\$290,954.00	\$16,061.95	.....
1870.....	150,346.20	11,377.41	.....	1885.....	.....	16,871.85	.....
1875.....	236,133.90	16,148.41	52,408.53	1900.....	.....	12,428.57	.....
1880.....	267,330.86	15,321.84	24,358.87	1906.....	.....	13,038.27	.....
1883.....	285,968.00	17,877.14	13,204.53	1910.....	308,568.61	11,777.56	40.00
1888.....	228,221.00	14,609.70	1,253.21	1914.....	303,594.61	12,728.14	120.00

<sup>1</sup> Invested funds only; does not include uninvested cash on hand.

For the future the deficit in interest below the required 5 per cent has been adjusted by an act passed by the State legislature and approved August 7, 1913 (sec. 249, ch. 758, acts of 1913), which provided as follows:

If for any year the income from the agricultural college fund is less than 5 per cent on the principal, the regents of the university are authorized and required to transfer from the university fund income to the agricultural college fund income an amount necessary to meet the difference between the interest actually received and the amount which would have been yielded had the income been at the rate of 5 per cent.

*Wyoming.*—By an act of March 4, 1886, the Territorial legislature organized the University of Wyoming and provided a State tax for its support. The university was to be located in or near the city of Laramie, to be open to men and women alike, and to provide for a liberal education in all collegiate branches of study. There were seven trustees. A site of 20 acres was procured, later increased to 54 acres, partly by gift and partly by purchase through the citizens of Laramie and through the Union Pacific Railroad. In the fall of 1887, a portion of the first building having been completed, the institution was opened for students. Three farms, containing 1,080 acres, are now used for experimental and demonstration work.

When, in 1889, the State constitution was adopted and the new State was entitled to 90,000 acres of public land for an agricultural college endowment, this grant, together with all its conditions, was conferred on the university. This has been followed by all grants in

aid of agricultural colleges, experiment stations, extension work, and one-fourth of the grant for charitable, educational, penal, and reformatory institutions.

In 1890 a bill to establish a separate agricultural college was passed by the legislature and was followed in 1892 by a State referendum vote placing the new college at Lander, Fremont County. As the legislature declined to pass measures for the change, the institution was not established. Thus, wisely, all efforts of the State for higher education have been centered in one institution.

The care of the 90,000-acre grant, together with all the State lands, is in the hands of a State board of land commissioners, which locates, sells, and rents the lands, turning over the proceeds to the State treasurer to be invested or held for the use of the university. The latest available report for the biennium ended September 30, 1914, shows the following condition of the grant:

*Lands.*

Total number of acres granted.....	90,000.00
Acres located and confirmed to the State.....	89,832.36
Acres sold.....	6,664.35
Acres selected and reserved for sale.....	2,120.44
Acres leased.....	79,305.13

*Capital of the fund.*

Invested funds.....	\$28,425.00
Cash balance uninvested, held in the agricultural college permanent land fund of 1903.....	20,415.34
Cash balance uninvested, held in the agricultural college permanent land fund No. 2.....	24,515.50
<b>Total of permanent fund.....</b>	<b>73,355.84</b>

*Interest and income for the biennium 1912-1914.*

Interest on invested funds.....	\$3,063.05
Interest on deferred payments on purchases.....	950.19
Rentals.....	11,385.70
Interest on bank balances.....	1,043.03
<b>Total biennial income for support.....</b>	<b>16,441.97</b>

*Invested funds.*

At 4½ per cent.....	\$3,500
At 5 per cent.....	4,000
At 5½ per cent.....	4,000
At 6 per cent.....	16,925
	<hr/>
	28,425

## GENERAL DISCUSSION.

Under the grant of July 2, 1862, three sharp divisions in the States appear:

1. States receiving scrip under the original act.
2. States receiving land under the original act.
3. New States receiving land under their State enabling acts or other acts in lieu of the grants under the original act.

In general it has been very difficult, well-nigh impossible, to carry out the exact letter of the law. A study of the detailed histories shows scarcely one State that has not, in some way, at some time, been in default.

The principal lines of default have been a delay in investing the capital, or investment at less than 5 per cent, causing loss of income to the college; use of capital for other purposes than for the college; and finally the use of income for purposes not authorized by law, such as for the administration of lands or expenses of investments. In general these defaults have been made good as soon as proper attention was directed to them.

Although defaults have been corrected, in the main immediately on being recognized, yet seldom have deficits been refunded or made up. Especially in the matter of loss of interest from lack of investment or from deficient interest return, it has been usual to replace the investment so as to obtain the required 5 per cent but to allow past losses to remain unsatisfied. There are, however, several exceptions to this practice; the last and most prominent is the State of Texas, the legislature of which in 1915 appropriated \$24,358.35 to adjust losses in interest due to past investments at less than 5 per cent.<sup>1</sup>

In the method of obtaining the required 5 per cent on the invested funds several plans have been adopted.

(1) In a large number of the States, when it became evident that a continuous 5 per cent investment would be difficult to find, the fund was turned over to the State treasury and the State itself assumed the load of interest, the capital being considered as part of the irreducible State debt. This was done in Connecticut, Delaware, Georgia, Indiana, Kentucky, Louisiana, Maine, Massachusetts, New Hampshire, New Jersey, New York, and Pennsylvania.

(2) In other States the receipts from the sale of lands were turned in to the State treasury as fast as received and added either to the State sinking fund or to general State funds, no attempt at outside investment being made. In such cases the State issues certificates of indebtedness at a good rate of interest. Michigan, Missouri, and Ohio handled their funds in this way.

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<sup>1</sup> Also see footnote on Arkansas, page 13

(3) Other States have invested the funds at the best rate obtainable in the open market, and make up the difference between the rate obtained and the required 5 per cent by direct legislative appropriation. Maryland and Rhode Island handle the funds in this way.

(4) In Florida, Minnesota, and Wisconsin the legislature has authorized the governing board of the college to transfer funds from other general college funds in order to make up the deficit in interest.

(5) In Illinois, North Carolina, and South Carolina the fund has been lost by defalcation or dishonesty and has been restored by the legislature. A State bond for the amount has been issued in each of these States.

The above five methods cover the handling of the funds by those States receiving it under the original grant and which have entirely disposed of the lands and scrip. An entirely different method has been adopted in the newer States.

Among the older States the following seem to be in default at the time of writing this article: Colorado was derelict in the investment of the capital received from the sale of lands; the State legislature, in attempting to make the funds secure, placed so many conditions and penalties upon the State officers that they refused to move and allowed the funds to lie in bank at 2 or 2½ per cent interest; recently the provisions have been changed and the funds are being invested as fast as possible. Nebraska has its capital invested in securities only part of which bring 5 per cent interest, the balance less than 5 per cent; action by the State legislature to remedy this or make up the deficit is expected. Nevada for a number of years failed to segregate this fund from other land-grant funds, investing the proceeds from the sale of all lands together, without regard to the special 5 per cent investment condition attached to this fund; as a result there is a deficit of about 1 per cent in yearly income and some confusion regarding the exact amount of the capital.

The newer States received invariably, in their State enabling acts, grants of public lands for many different purposes and running into the millions of acres. The care of these lands has become one of the principal administrative duties of the State. In every case a State land board has been created which locates the lands under the different grants and arranges for their use either by sale to individuals who will develop them, or by rental of the lands or of the privileges, such as grazing, mining, lumbering, water power, etc. Sales of lands are usually made on a part cash basis, the State collecting a liberal rate of interest on the deferred payments.

The amount received from actual sales of lands of the agricultural college grants is turned over to the State treasurer and invested either by him or by some other authorized agency, at the best rate obtainable. In the past, because the agricultural college grant formed ~~only~~

a small portion of the total State lands, no attention was paid to the special conditions affixed to it, and the lands and investments were treated in the same way as the other grants of land, being required to bear their share of the cost of management; but now each State is making an effort to carry out the special conditions and to throw its 5 per cent securities into the agricultural college permanent fund, so that there is little default in investment.

The interest from invested funds is lumped in with income from leases, from interest on deferred payments of purchase money, and money from all other sources to form an income fund from which the agricultural college may draw annual support. In some States this support fund is immediately available for the use of the college; in others the legislature appropriates as much of it each year as it thinks advisable, leaving the balance on hand.

#### LANDS AND SCRIP.

Twenty-eight States were allotted 8,160,000 acres of land in scrip; 20 received 2,890,000 acres in place, giving a total allotment of 11,050,000 acres under the act of July 2, 1862, or supplementary acts in lieu of it. Of this total, considering the grants to the newer States as already located, 10,929,215 acres actually passed to the States, the reduction of 120,785 acres being due to fractional deductions in issue of scrip, to the location of double minimum value lands, and to the failure of some States to locate the full allotment.

In 1914 there were 1,209,837 acres unsold, part of which were leased; and 51,850 acres unlocated, not including New Mexico with 150,000 acres and Oklahoma with 250,000 acres, none of which were located.

#### CAPITAL OF THE FUND.

The scrip and lands have been sold for \$12,643,309.43, of which \$119,164.90 was used in four States to purchase land. The remaining capital has increased during 52 years of existence (1862 to 1914) until it amounts to \$13,621,712.07. Of this amount \$2,205,489.08, in 10 States, draws interest at less than 5 per cent, but only 4 States<sup>1</sup> fail to make up the deficit in some way.

#### INCOME.

Every State now applies all the income for the support of the agricultural and mechanical college; there is no diminution or diversion to other uses.

The total income under the 1862 land-grant endowment act from all sources, not including additions to principal, for the year 1913-14 was \$856,318.95, of which \$725,496.32 came from interest on in-

<sup>1</sup> In 1917 only three States.

vested funds, \$71,258.05 from interest on deferred payments of land purchases, \$55,884.83 from leased lands, from privileges, and from miscellaneous sources, and \$4,877.76 from direct appropriations to make up the difference in interest from investments at less than 5 per cent.

#### COLLEGES.

Of the colleges benefiting under the act, Kentucky, Mississippi, South Carolina, and Virginia divide the income between an institution for whites and one for colored students. With the exception of Massachusetts, which divides the fund between two colleges, each of the other States maintains one college or university to receive the benefit of the fund.

Nineteen States have created and maintain independent colleges of agriculture and the mechanic arts while also maintaining State universities; in each of 21 States the college of agriculture is a part of the State university; seven States do not have State universities.

Massachusetts has a State agricultural college and aids a private foundation—Massachusetts Institute of Technology—with part of the fund; it has no State university. Ohio has three universities aided by the State, but has officially recognized Ohio State University, comprising the college of agriculture, as the State university. In Georgia the agricultural college is legally a part of the State university, but actually is almost autonomous. In Montana the agricultural college has a separate name and management, but is by law one of the component parts of the State university composed of all the State-supported institutions of higher learning.

The oldest institution is Rutgers College, New Jersey, founded as Queens College in 1766, but this is a private corporation. The oldest State institution is the University of Tennessee, established as Blount College in 1794 and as East Tennessee College in 1807. The oldest independent State college of agriculture and mechanic arts is the Michigan Agricultural College, established February 12 1855, and opened on May 13, 1857.

The land-grant colleges and the 1862 land-grant fund as of June 30, 1914.

States.	Lands.				Capital of the fund.				Income.					
	Acres granted in scrip.	Acres granted in land.	Acres actually received.	Acres unsold June 30, 1914.	Acres unlocated June 30, 1914.	Total sale price of land or scrip.	Total capital June 30, 1914.	Amount invested at less than 5 per cent.	Is deficit made up?	Interest on invested funds.	Interest on deferred payments.	From miscellaneous sources.	From other funds to make up 5 per cent deficit.	Total yearly income.
Alabama.....	240,000		240,000	0	0	\$216,000.00	\$253,500.00	0	0	\$20,280.00				\$20,280.00
Arizona.....	150,000	150,000	150,000	150,000	50,000	0	116,000.00	\$116,000.00	No.	0				3,480.00
Arkansas.....	150,000	150,000	150,000	1,402	0	135,000.00	732,233.14	0	0	42,374.07				42,374.07
California.....	150,000	150,000	150,000	34,078	74	185,956.34	185,956.34	182,784.02	No.	2,661.56		\$9,978.70	0	12,641.26
Colorado.....	180,000	180,000	180,000	0	0	135,000.00	135,000.00	0	0	6,750.00				6,750.00
Connecticut.....	90,000	90,000	90,000	0	0	83,000.00	83,000.00	0	0	4,900.00				4,900.00
Delaware.....	90,000	90,000	90,000	0	0	80,000.00	153,800.00	135,800.00	Yes.	5,074.00			\$2,716.00	7,790.00
Florida.....	270,000	90,000	270,000	64,198	0	242,202.17	242,202.17	0	0	16,954.14				16,954.14
Georgia.....	480,000	480,000	480,000	0	0	126,615.52	126,615.52	0	0	28,425.70	(1)			28,425.70
Illinois.....	390,000	390,000	390,000	240	0	212,238.50	648,442.91	0	0	32,422.14	(1)		38.10	32,460.24
Indiana.....	240,000	240,000	240,329	0	0	686,817.97	686,817.97	0	0	35,191.86				35,191.86
Iowa.....	90,000	90,000	90,000	7,686	0	491,746.74	491,746.74	0	0	25,614.00				25,614.00
Kansas.....	330,000	330,000	330,000	0	0	182,630.40	182,630.40	0	0	9,900.00				9,900.00
Kentucky.....	210,000	210,000	210,000	0	0	116,326.20	116,326.20	0	0	5,913.69				5,913.69
Louisiana.....	210,000	210,000	210,000	0	0	112,594.00	112,594.00	115,943.60	Yes.	4,098.74			1,667.44	5,766.18
Maine.....	210,000	210,000	210,000	0	0	526,297.00	526,297.00	0	0	10,650.00				10,650.00
Maryland.....	360,000	360,000	360,000	50,480	0	691,672.86	691,672.86	0	0	49,417.97				49,417.97
Massachusetts.....	240,000	240,000	240,000	0	0	188,028.00	188,028.00	0	0	22,257.86				22,257.86
Michigan.....	120,000	120,000	120,000	0	0	579,430.26	579,430.26	579,430.26	Yes.	17,728.50				17,728.50
Minnesota.....	210,000	210,000	210,000	44,287	0	363,441.19	363,441.19	0	0	11,994.06				11,994.06
Mississippi.....	330,000	140,000	330,000	107,836	1,046	533,148.92	533,148.92	405,572.86	No.	16,634.51	\$6,327.21			22,961.72
Missouri.....	90,000	90,000	90,000	1,887	0	960,072.86	960,072.86	107,363.73	No.	23,031.50	7,666.79			30,698.29
Montana.....	90,000	90,000	90,000	0	0	107,363.73	107,363.73	107,363.73	No.	5,144.00				5,144.00
Nebraska.....	150,000	150,000	150,000	0	0	80,000.00	80,000.00	0	0	4,800.00				4,800.00
Nevada.....	210,000	150,000	210,000	150,000	0	115,945.95	116,000.00	0	0	5,900.00				5,900.00
New Hampshire.....	990,000	990,000	990,000	0	0	688,576.12	688,576.12	0	0	34,428.81				34,428.81
New Jersey.....	270,000	270,000	270,000	0	0	135,000.00	135,000.00	0	0	7,500.00				7,500.00
New Mexico.....	130,000	130,000	130,000	36,020	0	455,924.54	455,924.54	43,070.92		15,615.95		2,961.52		18,577.47
New York.....	630,000	630,000	630,000	250,000	0	340,905.90	524,176.50	0	0	31,450.59				31,450.59
North Carolina.....	250,000	250,000	250,000	0	0	202,113.69	202,113.69	0	0	11,267.08				11,267.08
Ohio.....	90,000	90,000	90,000	920	0	439,186.80	439,186.80	50,000.00	Yes.	31,020.00			464.32	31,484.32
Oklahoma.....	780,000	780,000	780,000	0	0	50,000.00	50,000.00	50,000.00	Yes.	2,035.68				2,035.68
Oregon.....	120,000	120,000	120,000	0	0	50,000.00	50,000.00	0	0	0				0
Pennsylvania.....	990,000	990,000	990,000	0	0	688,576.12	688,576.12	0	0	34,428.81				34,428.81
Rhode Island.....	270,000	270,000	270,000	0	0	135,000.00	135,000.00	0	0	7,500.00				7,500.00
South Carolina.....	130,000	130,000	130,000	36,020	0	455,924.54	455,924.54	43,070.92		15,615.95		2,961.52		18,577.47
South Dakota.....	630,000	630,000	630,000	250,000	0	340,905.90	524,176.50	0	0	31,450.59				31,450.59
Tennessee.....	250,000	250,000	250,000	0	0	202,113.69	202,113.69	0	0	11,267.08				11,267.08
Texas.....	90,000	90,000	90,000	920	0	439,186.80	439,186.80	50,000.00	Yes.	31,020.00				31,020.00
Vermont.....	120,000	120,000	120,000	0	0	50,000.00	50,000.00	0	0	0				0
Virginia.....	990,000	990,000	990,000	0	0	688,576.12	688,576.12	0	0	34,428.81				34,428.81
Washington.....	270,000	270,000	270,000	0	0	135,000.00	135,000.00	0	0	7,500.00				7,500.00
West Virginia.....	130,000	130,000	130,000	36,020	0	455,924.54	455,924.54	43,070.92		15,615.95		2,961.52		18,577.47
Wisconsin.....	630,000	630,000	630,000	250,000	0	340,905.90	524,176.50	0	0	31,450.59				31,450.59
Wyoming.....	780,000	780,000	780,000	920	0	202,113.69	202,113.69	0	0	11,267.08				11,267.08
Total.....	120,000	120,000	120,000	0	0	50,000.00	50,000.00	50,000.00	Yes.	2,035.68			464.32	2,500.00



South Carolina.....	180,000	0	0	130,500.00	191,800.00	.....	.....	.....	11,508.00	10,964.57	16,071.23	.....	11,508.00
South Dakota.....	160,000	143,960	0	128,804.87	128,804.83	.....	.....	.....	5,242.70	.....	.....	.....	37,278.50
Tennessee.....	300,000	0	0	271,875.00	400,000.00	.....	.....	.....	23,960.00	.....	.....	.....	23,960.00
Texas.....	180,000	0	0	174,000.00	209,000.00	.....	.....	.....	10,450.00	.....	.....	.....	10,450.00
Utah.....	180,000	18,516	0	194,138.74	194,138.74	.....	209,000.00	.....	8,605.60	2,853.47	1,296.83	.....	12,755.90
Vermont.....	150,000	0	0	122,628.40	125,500.00	.....	.....	.....	8,130.00	.....	.....	.....	8,130.00
Virginia.....	300,000	0	0	*285,000.00	516,468.00	.....	.....	.....	30,988.08	.....	.....	.....	30,988.08
Washington.....	89,438	65,932	582	247,408.36	247,698.36	.....	.....	.....	12,345.67	.....	17,061.29	.....	19,628.06
West Virginia.....	150,000	0	0	80,000.00	116,500.00	.....	.....	.....	12,303.00	.....	.....	.....	12,303.00
Wisconsin.....	240,000	240,000	49	303,594.61	303,594.61	.....	.....	.....	12,728.14	.....	.....	.....	12,728.14
Wyoming.....	90,000	89,832	83,168	73,355.84	73,355.84	.....	303,594.61	.....	1,531.52	475.09	6,214.37	.....	8,220.96
Total.....	8,160,000	10,929,215	1,209,837	51,850	12,643,309.43	13,621,712.07	2,205,468.08	.....	726,498.22	71,288.05	54,884.83	4,877.76	856,318.95

1 Interest on deferred payments included.  
 2 Details were not available.  
 3 Some interest on deferred payments is included with interest on invested funds.  
 4 Some income from leased lands included with interest on invested funds.  
 5 Of this total, \$29,778.40, 10 per cent of the total issue, was used to purchase land for Massachusetts Agricultural College.  
 6 Board of regents authorized to transfer funds to cover deficit in interest.  
 7 \$5,000 of this capital was used to purchase land for the A. and M. College.  
 8 \$43,886.50 was used to purchase land.  
 9 Ten per cent was used to purchase land.

*The land-grant colleges.*

Names of institutions.	Agricultural college separate from State university.	One State institution.	Date of organization of the institution.	Date of opening of the institution to students.	Date of receipt of 1862 land-grant fund.
Alabama Agricultural and Mechanical College and Polytechnic Institute.....	×		Feb. 26, 1872	Mar. 20, 1872	Feb. 26, 1872
University of Arizona.....		Univ.....	—, 1885	Oct. —, 1891	June —, 1910
University of Arkansas.....		Univ.....	Mar. 27, 1871	Jan. 22, 1872	Mar. 27, 1871
University of California.....		Univ.....	Mar. 23, 1868	Sept. 23, 1869	Mar. 23, 1868
Colorado Agricultural College.....	×		Feb. 11, 1870	Sept. 1, 1879	Jan. 27, 1879
Connecticut Agricultural College.....		Col.....	Apr. 6, 1881	Sept. 28, 1881	Apr. 21, 1893
Delaware College.....		Col.....	Feb. 6, 1833	May —, 1834	Mar. 14, 1867
University of Florida.....		Univ.....	—, 1870	Oct. 1, 1884	—, 1870
University of Georgia <sup>1</sup> .....		Univ.....	Dec. 12, 1866	May 1, 1872	Dec. 12, 1866
University of Idaho.....		Univ.....	Jan. —, 1889	Oct. 3, 1892	—, 1892
University of Illinois.....		Univ.....	Feb. 28, 1867	Mar. 2, 1868	Feb. 28, 1867
Purdue University, Indiana.....	×		May 6, 1869	Sept. 16, 1874	May 6, 1869
Iowa State College of Agriculture and Mechanic Arts.....	×		—, 1858	( <sup>2</sup> ) 1859	Sept. 11, 1862
Kansas State Agricultural College <sup>3</sup> .....	×		Feb. 16, 1863	Feb. 16, 1863	Feb. 16, 1863
University of Kentucky.....		Univ.....	—, 1879	—, 1880	—, 1865
Kentucky Normal and Industrial Institute (colored).....			May 18, 1886	Oct. 11, 1887	May 21, 1897
Louisiana State University and Agricultural and Mechanical College.....		Univ.....	Apr. 7, 1874	Nov. 16, 1874	Apr. 7, 1874
University of Maine.....		Univ.....	Feb. 25, 1865	Sept. 14, 1868	Feb. 25, 1865
Maryland Agricultural College.....		Col.....	—, 1856	Fall of 1859	—, 1864
Massachusetts Institute of Technology.....	( <sup>4</sup> )		Apr. 10, 1861	Oct. 21, 1865	Apr. 27, 1863
Massachusetts Agricultural College.....	( <sup>4</sup> )		Apr. 29, 1863	Oct. 2, 1867	Apr. 29, 1863
Michigan Agricultural College.....	×		Feb. 12, 1855	May 13, 1857	Feb. 25, 1853
University of Minnesota.....		Univ.....	Feb. 19, 1851	Nov. 26, 1851	Feb. 18, 1868
Mississippi Agricultural and Mechanical College.....	×		Feb. 28, 1878	—, 1880	Feb. 28, 1878
Alcorn Agricultural and Mechanical College (colored).....			May 13, 1871	—, 1871	May 13, 1871
University of Missouri.....		Univ.....	Feb. 11, 1839	Apr. 14, 1841	Feb. 24, 1870
Montana State College of Agriculture and Mechanic Arts.....	×		Feb. 16, 1893	Sept. 15, 1893	Feb. 16, 1893
University of Nebraska.....		Univ.....	Feb. 15, 1869	Sept. 7, 1871	—, 1873
University of Nevada.....		Univ.....	Mar. 7, 1873	Oct. 12, 1874	Mar. 7, 1873
New Hampshire College of Agriculture and Mechanic Arts.....		Col.....	June 7, 1866	Sept. 4, 1868	June 7, 1866
Rutgers College, New Jersey <sup>5</sup> .....		Col.....	Nov. 10, 1796	—, 1771	Mar. 21, 1893
New Mexico College of Agriculture and Mechanic Arts.....	×		Feb. 28, 1889	Mar. 10, 1890	Feb. 28, 1889
Cornell University, New York <sup>6</sup> .....		Univ.....	Apr. 27, 1865	Oct. 7, 1868	Apr. 27, 1865
North Carolina College of Agriculture and Mechanic Arts.....	×		—, 1887	Oct. —, 1889	—, 1887
North Dakota Agricultural College.....	×		Mar. 9, 1890	Sept. 8, 1891	Mar. 9, 1890
Ohio State University <sup>7</sup> .....		Univ.....	Mar. 22, 1870	Sept. 7, 1873	Mar. 22, 1870
Oklahoma Agricultural and Mechanical College.....	×		Dec. 25, 1890	Fall of 1891	Dec. 25, 1890
Oregon Agricultural College <sup>8</sup> .....	×		Feb. 11, 1865	—, 1865	—, 1870
Pennsylvania State College.....		Col.....	Feb. 22, 1855	Feb. 20, 1859	Feb. 19, 1867
Rhode Island State College.....		Col.....	Mar. 23, 1888	Sept. 23, 1890	May 19, 1892
Clemson College, South Carolina.....	×		Nov. —, 1889	July —, 1893	Nov. —, 1889
Colored Normal, Agricultural and Industrial College, South Carolina.....			—, 1896	—, 1896	—, 1896
South Dakota State College of Agriculture and Mechanic Arts.....	×		—, 1881	Sept. 24, 1884	Oct. 1, 1889
University of Tennessee.....		Univ.....	Sept. 10, 1794	—, 1881	Feb. 1, 1868

<sup>1</sup> Georgia State College of Agriculture.<sup>2</sup> School opened in 1859, college on Mar. 17, 1860.<sup>3</sup> Bluemont Central College opened in May, 1860.<sup>4</sup> Massachusetts maintains one State agricultural college and aids the Massachusetts Institute of Technology, a private foundation. Harvard University, also a private corporation, takes the place of a State university.<sup>5</sup> Rutgers College is a private foundation but is aided by the State and is the official State college of agriculture.<sup>6</sup> While Cornell University is a private corporation, the State aids in its support and management; it is therefore considered as New York State's land-grant university.<sup>7</sup> Ohio State University is the officially recognized State university and includes the college of agriculture. Ohio also has created two other State institutions, Miami University and Ohio University, and aids them with State funds.<sup>8</sup> Corvallis College, opened in 1865, became Oregon Agricultural College in 1885.

*The land-grant colleges—Continued.*

Name of institution.	Agricultural college separate from State university.	One State institution.	Date of organization of the institution.	Date of opening of the institution to students.	Date of receipt of 1862 land-grant fund.
Agricultural and Mechanical College of Texas.....	×	.....	Apr. 17, 1871	Oct. 4, 1876	Apr. 17, 1871
Agricultural College of Utah.....	×	.....	Mar. 8, 1888	Sept. —, 1890	Mar. 8, 1888
University of Vermont.....	.....	Univ.....	Nov. 2, 1791	—, 1801	Nov. 9, 1866
Virginia Agricultural and Mechanical College and Polytechnic Institute.....	×	.....	Mar. 19, 1872	Fall of 1872	Mar. 19, 1872
Hampton Normal and Agricultural Institute (colored).....	.....	.....	June 4, 1870	Apr. —, 1868	Mar. 19, 1872
State College of Washington.....	×	.....	Mar. 28, 1890	Jan. 13, 1892	Mar. 28, 1890
West Virginia University.....	.....	Univ.....	Feb. 7, 1867	—, 1868	Feb. 7, 1867
University of Wisconsin.....	.....	Univ.....	July 26, 1848	Feb. —, 1849	Apr. 12, 1866
University of Wyoming.....	.....	Univ.....	Mar. 4, 1886	Fall of 1887	—, 1886





DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, NO. 14

MONTHLY RECORD  
OF CURRENT EDUCATIONAL  
PUBLICATIONS

MAY, 1918



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1918

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# MONTHLY RECORD OF CURRENT EDUCATIONAL PUBLICATIONS.

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CONTENTS.—Proceedings of associations—Educational history and biography—Current educational conditions—Educational theory and practice—Educational psychology; Child study—Educational tests and measurements—Special subjects of curriculum—Kindergarten and primary school—Rural education—Secondary education—Teachers: Training and professional status—Higher education—School administration—School management—School architecture—School hygiene and sanitation—Physical training—Play and playgrounds—Social aspects of education—Child welfare—Moral and religious education—Manual and vocational training—Vocational guidance—School gardens—Home economics—Commercial education—Professional education—Civic education—Reeducation of war invalids—Education of women—Education of deaf—Exceptional children—Education extension—Libraries and reading—Bureau of Education: Recent publications.

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## NOTE.

The record comprises a general survey in bibliographic form of current educational literature, domestic and foreign, received during the monthly period preceding the date of its publication.

This office can not supply the publications listed in this bulletin, other than those expressly designated as publications of the Bureau of Education. Books, pamphlets, and periodicals here mentioned may ordinarily be obtained from their respective publishers, either directly or through a dealer, or, in the case of an association publication, from the secretary of the issuing organization. Many of them are available for consultation in various public and institutional libraries.

Publications intended for inclusion in this record should be sent to the library of the Bureau of Education, Washington, D. C.

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## PROCEEDINGS OF ASSOCIATIONS.

616. **American school peace league.** Year book . . . 1916-1917. 124 p. 8°. (Mrs. Fannie F. Andrews, secretary, 405 Marlborough street, Boston, Mass.)  
Contains: 1. The History committee, p. 66-72. 2. Icie F. Johnson: What education can do toward the maintenance of permanent peace, p. 98-107.
617. **Association of colleges and preparatory schools of the middle states and Maryland.** Proceedings of the thirty-first annual convention . . . held under the auspices of Vassar college, Poughkeepsie, N. Y., November 30 and December 1, 1917. Pub. by the Association, 1918: 68 p. 8°. (George W. McClelland, secretary, University of Pennsylvania, Philadelphia, Pa.)  
Contains: 1. J. R. Angell: The teacher and the soldier, p. 7-15; Discussion, p. 15-20. 2. John Erskine: Democracy and idealism, p. 26-39; Discussion, p. 39-42. 3. Clyde Furst: Educational surveys, p. 42-51; Discussion [by] S. P. Capen, p. 51-58.
618. **National education association of the United States.** Addresses and proceedings of the fifty-fifth annual meeting held at Portland, Oregon, July 7-14, 1917. Washington, D. C., Pub. by the Association, 1917. 864 p. 8°.

### *Department of Kindergarten Education.*

Contains: 1. Anna L. Force: The kindergarten as an organic part of every elementary school, p. 418-21. 2. Edna D. Baker: The dramatic arts in kindergarten: game, song, and story as the basis of a democratic education, p. 421-27. 3. Mary A. Grups: The kindergarten as an agency for the control of pre-school welfare and education, p. 427-29.

*Department of Vocational Education and Practical Arts.*

4. L. W. Bartlett: Vocational guidance a distinct function of the public school, p. 423-26.  
 5. Mary S. Woolman: Training of girls and women for trade and industry, p. 426-33. 6. Alice Ravenhill: Extension of the field of home economics in the school curriculum, p. 433-43. 7. Anna Y. Reed: Vocational guidance—problems of organization and administration, p. 443-49. 8. F. H. Shepherd: The training of teachers for vocational schools, p. 449-53. 9. G. H. Jensen: Industrializing the manual arts, p. 454-60. 10. A. W. Dow: Practical fine arts—emergency art courses for war-time service, p. 460-64. 11. B. W. Johnson: The relation of art to vocational education and manual training, p. 464-68. 12. Mary F. Rausch: The betterment of homes in urban communities through extension work in home economics, p. 468-72.

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13. Laura J. Soper: The music preparation of the grade teacher as provided in teachers' colleges p. 476-80. 14. H. E. Owen: Music, a required subject in the high school, and patriotic music in all the grades, p. 483-86. 15. M. Teresa Finn: Music appreciation in the high school, p. 486-90.

*Department of Child Hygiene.*

16. E. A. Layton: The Tacoma system of health supervision, p. 494-99. 17. C. H. Hunt: Physical training versus athletics, p. 499-502. 18. Horace Ellis: A state program for school health, p. 506-9. 19. Emma C. Grittinger: The work of the school nurse, p. 513-15. 20. H. C. Fixott: Oral hygiene: its relation to economic and educational efficiency, p. 516-19.

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*Library Department.*

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*Department of Rural and Agricultural Education.*

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*Department of School Patrons.*

39. Mrs. O. S. Barnum: The past, present, and future of the patrons' department, p. 639-45. 40. Ella A. Moore: Conserving the children of working age, p. 645-49.

*Department of Educational Publications.*

41. R. H. Wilson: Free or rented textbooks, p. 653-58. 42. W. C. Bruce: Educational journalism, p. 658-59.

Pages not analyzed here have already been indexed in this record as published in the Journal of the National Education Association.

619. New York (State) University convocation. Proceedings of the fifty-third convocation . . . Albany, N. Y., October 18-19, 1917. 177 p. 8°.

Contains: 1. Henry Van Dyke: Education which made this war, p. 44-55. 2. Robert Falconer: Canadian universities and the war, p. 56-65. 3. C. A. Richmond: Safeguarding our education, p. 73-86. 4. T. W. Lamont: The schools and the liberty loan, p. 112-19. 5. H. N. MacCracken: The Junior red cross, p. 120-27. 6. Fernand Baldensperger: Address [on the war and the French schools] p. 156-63. 7. Boris A. Bakhmeteff: Address [on the war and Russian education] p. 164-72.



620. **Pennsylvania state educational association.** Proceedings of the sixty-eighth meeting, held at Johnstown, December 26-29, 1917. Pennsylvania school journal, 66: 383-420, March 1918.

*Department of Colleges and Normal Schools.*

Contains: 1. Arthur Holmes: Athletics in higher institutions of learning, p. 383-88. 2. A. C. Rothermel: Relation of normal school to rural school problem, p. 388-90. 3. W. G. Chambers: Relative functions of university schools of education and state normal schools, p. 390-93. 4. F. P. Graves: Relative functions of university schools of pedagogy and state normal schools, p. 393-95. 5. P. M. Harbold: Relative functions of university schools of pedagogy and state normal schools, p. 395-97. 6. A. W. Haas: The future status of the college, p. 397-98.

*Department of Manual Arts.*

7. Claire Snyder: Securing the co-operation of employers in continuation school work, p. 398-402. 8. Estelle Bennett: Influence of the World war on domestic art, p. 404-6. 9. Anne C. Perry: School credits for home and community work, p. 406-8. 10. A. F. Payne: Place of art in vocational education, p. 409-12. 11. James Killius: Continuation school as a social problem, p. 413-15. 12. J. H. Fuller: What to teach to continuation school pupils; text books used, p. 415-18. 13. Harry K. Balsbaugh: Continuation school without text books, p. 419-20.

621. **Texas state teachers' association.** Proceedings of the thirty-ninth annual meeting . . . Waco, Texas, November 29-December 1, 1917. Texas state teachers' association bulletin, vol. 2, no. 1, January 1918. 322 p. 8°.

Contains: 1. O. T. Corson: The immeasurable in education, p. 18-22. 2. Frank McMurry: On the relation between principal and teacher, p. 24-27. 3. C. S. Meek: Women as school board members, p. 27-29. 4. W. H. Bruce: Ideals of citizenship and how inculcated, p. 29-31. 5. Mary C. C. Bradford: [Education for citizenship] p. 34-36. 6. J. C. Thomas: The rural school survey by the National bureau, in Walker county, p. 116-18. 7. O. T. Corson: Characteristics of good citizenship developed in the public schools, p. 119-22. 8. Lulu Parker: Visual instruction, its importance and the means for giving it, p. 142-44. 9. E. S. Cauthorn: Reasons for military training in public high schools, p. 146-48. 10. Nina B. Crigler: Reaching the community through the home economics department of our public schools, p. 152-56. 11. Lillian Baker: The contribution of domestic art to war relief, p. 156-58. 12. T. U. Taylor: Manual training. Its status, function, benefits, handicaps, objects, and correlated subjects, p. 163-66. 13. L. B. Abbey: Manual training from the viewpoint of the employer, p. 166-70. 14. E. V. White: The place of mathematics in the education of women, p. 189-92. 15. W. A. Parker: Vocational mathematics vs. the old régime, p. 192-95. 16. Mary E. Dechard: Educational values in mathematics, p. 197-99. 17. J. R. Swenson: What new standards of instruction are demanded by the present situation? p. 214-16. 18. Joseph Roemer: The efficiency of the Texas state normal colleges—a survey, p. 216-22. 19. J. A. Hill: How are the normal schools related to the present national situation? p. 222-25. 20. Frank McMurry: Educational tendencies, p. 240-45. 21. C. J. Crampton: Socializing physiology, hygiene and sanitation, p. 261-65. 22. L. V. Stockard: Classification and affiliation of high schools by the state department of education, p. 279-84. 23. Thomas Fletcher: Subject matter and methods as related to training for citizenship, p. 287-90.

622. **Wisconsin teachers' association.** Proceedings of the sixty-fifth annual session . . . held at Milwaukee, November 1 to 3, 1917. Madison, Wis., Democrat printing company, 1918. 391 p. 8°. (M. A. Bussewitz, secretary, Milwaukee, Wis.)

Contains: 1. M. C. Potter: A national service year, an educational problem, p. 22-31. 2. W. H. Elson: The all-year school, p. 32-36. 3. O. T. Corson: The immeasurable in education, p. 44-53. 4. R. A. Karges: Overworked teachers, p. 76-80. 5. T. E. Finegan: A fundamental principle in school administration, p. 113-22. 6. C. G. Pearce: Ruralizing city schools, p. 122-29. 7. L. D. Harvey: The schools' opportunity in the development of loyal American citizenship, p. 129-36. 8. C. P. Cary: National activities in Wisconsin schools, p. 136-43. 9. F. D. Slutz: The schools and the times, p. 145-53. 10. Florence C. Fox: Socialized recitation, p. 156-59. 11. G. W. Swartz: Supervised study, p. 159-66. 12. Augusta M. Gehrs: Health of grammar grade and high school pupils, p. 182-85. 13. G. W. Henike: Physiology for eighth and ninth grade pupils, p. 188-93. 14. J. W. Beattie: Some phases of instrumental music instruction in public schools, p. 217-27. 15. P. J. Zimmers: Developing independence and self-activity in pupils, p. 243-51. 16. J. E. Roberts: Breaking the lock step, p. 252-55. 17. E. G. Ehlman: General science in the seventh and eighth grades, p. 257-63. 18. Daisy A. Kugle: Food conservation and the home economics teacher, p. 284-89. 19. J. M. O'Neill: Oral aims and standards in Wisconsin schools, p. 292-307. 20. Elizabeth Woods: Modern treatment of exceptional children, p. 330-35. 21. Rudolph Pintner: Mental and educational measurements, p. 336-38.

## EDUCATIONAL HISTORY AND BIOGRAPHY.

623. **Boyd, William.** Græco-Jewish education. *Educational news* (London), 43 : 110-11, February 22, 1918.  
Effect of Hellenic culture on Jewish educational ideals.
624. **Lenôtre, G.** *Réveries d'après guerre sur des thèmes anciens.* III. 1. Le chemin des écoliers. 2. Les mauvaises fées. *Revue des deux mondes*, 44 : 307-39, 617-51, March 15, April 1, 1918.  
Presents some features of education in France during the old régime before the Revolution with their lessons for the present and future.
625. **Weill, Georges.** Un éducateur français en Argentine. *Revue universitaire*, 27 : 24-33, January 1918.  
Life and work of Amédée Jacques (1813-1865) who became rector of the National college at Buenos Aires.

## CURRENT EDUCATIONAL CONDITIONS.

*United States.*

626. **Dewey, Henry B.** Problems of the educational publisher. *Journal of education*, 87 : 345-47, March 28, 1918.  
Address at the Atlantic City meeting of the National education association.
627. **Furst, Clyde.** The place of the educational foundation in American education. *School and society*, 7 : 364-69, March 30, 1918.  
An address before the Department of superintendence of the National education association, Atlantic City, February 27, 1918.
628. **Judd, Charles H.** Prussia and our schools. *New republic*, 14 : 347-49, April 20, 1918.  
Discusses the limitations of the German *volkschule*, or common school. Compares the German system of elementary education with our own.
629. **McIntire, Ruth.** The effect of agricultural employment upon school attendance. *Elementary school journal*, 18 : 533-42, March 1918.  
Conditions in different States described. Effect of the war.
630. **Putnam, J. H.** Modern educational movements. I. The Gary school plan. *Educational review*, 55 : 284-93, April 1918.  
Reviews the strong and weak points of the Gary system. Compares some of the features of the system with that in vogue in Canada, particularly in Ottawa.
631. **Rosenstein, David.** Social and educational standards in a democracy at war. *School and society*, 7 : 421-27, 459-65, April 13, 20, 1918.
632. **Strickland, V. L.** The war and educational problems. *School and society*, 7 : 394-404, April 6, 1918.  
Considers the lessons which the experience of our allies offers and shows the necessity of redoubling our energies in educational work.

*Foreign Countries.*

633. **Arc, Paul L. d'.** Pour l'après-guerre. I. L'éducation française. Paris, B. Grasset, 1917. 322 p. 12°.  
Reflections on various reforms in education which France should adopt for the period after the war.
634. Capitalism and education. *Athenæum*, no. 4627: 131-34, March 1918.  
Discusses the "Memorandum on education" published by the Federation of British industries.
635. The war and national education. London, The Times publishing company, 1918. p. 253-88. illus. 4°. (The Times history and encyclopedia of the war. part 177, vol. 14, January 8, 1918.)

## EDUCATIONAL THEORY AND PRACTICE.

636. **Barrett, S. M.** Educational aims. *Oklahoma home and school herald*, 26: 102-4, March 1918.

637. *The Dial*, Chicago, Ill. Spring educational number, vol. 64, no. 764, April 11, 1918.  
 Contains: 1. John Dewey: Education and social direction, p. 333-35. 2. C. A. Beard: The university and democracy, p. 335-37. 3. Helen Marot: The creative and efficiency concepts of education, p. 341-44.
638. **Gerwig, George W.** Schools with a perfect score; democracy's hope and safeguard. New York, The Macmillan company, 1918. xii, 194 p. 12°.  
 Presents an American program of education.
639. **O'Brien, John A.** Conflict of duty and interest in education. Catholic educational review, 15: 289-98, April 1918.  
 The comparative worth of duty and interest as incentives for school children.
640. **Resta, Raffaele.** Concetto di educazione. Rivista pedagogica, 10: 596-615, October-December 1917.
641. **Shreves, Rolland Merritt.** The philosophical basis of education. Boston, R. G. Badger [1918] 290 p. 12°.

## EDUCATIONAL PSYCHOLOGY; CHILD STUDY.

642. **Drever, James.** Instinct in man; a contribution to the psychology of education. Cambridge, University press, 1917. x, 281 p. 8°.  
 Undertakes to give a psychological account of instinct in man; to study the relation of instinct to emotion, especially human emotions, and the part which instinct plays in education.
643. **Marchesini, Giovanni.** Il "trapasso" dei sentimenti nell'educazione. Rivista pedagogica, 10: 577-95, October-December 1917.
644. **Mateer, Florence.** Child behavior. Boston, R. G. Badger [1918] 239 p. 12°.  
 A critical and experimental study of young children by the method of conditioned reflexes.
645. **Saxby, Ida B.** Some conditions affecting the growth and permanence of desires. British journal of psychology (London), 9: 93-149, December 1917.  
 Effect on children of definite training in moral and social ideals.

## EDUCATIONAL TESTS AND MEASUREMENTS.

646. Arbiters of fate. Unpopular review, 9: 368-72, April-June 1918.  
 A clever and amusing satire on psychological tests of children.
647. **Bickersteth, M. E.** The application of mental tests to children of various ages. British journal of psychology (London), 9: 23-73, December 1917.  
 Discusses the possibility of establishing by means of mental tests reliable age norms graded by years.
648. **Bureau of educational experiments, New York city.** Psychological tests. A bibliography. Supplement to January 1, 1918. New York, Bureau of educational experiments, 1918. p. 79-111. 8°. (Bulletin no. 6, Supplement 1.)  
 Compiled by Georgie J. Ruger.  
 CONTENTS.—The Binet-Simon scale, p. 79-84.—Mental tests other than the Binet-Simon scale. p. 85-111.
649. **Cleveland, Ohio. Board of education. Division of reference and research.** The results of a spelling test. 19 p. 8°. (*Its* Bulletin no. 2, March 11, 1918.)  
 A spelling test given to 106 Cleveland elementary and junior high schools in the 3d, 4th, 6th, 7th, and 8th grades.
650. **Jarrett, R. P.** A scale of intelligence of college students for the use of college appointment committees. Journal of applied psychology, 2: 43-51, March 1918.  
 Study based on tests of 100 students of the George Peabody college for teachers, during the school year 1915-16.
651. **Lacy, William I.** A study of 100 retarded fourth grade pupils tested by the Binet scale. Psychological clinic, 12: 16-23, March 15, 1918.

652. **Martin, H. F. and Smith, Leon O.** School survey at Union, Iowa. *Midland schools*, 32 : 245-50, April 1918.  
The school plant, mental tests, etc.
653. **New York (State) University.** Report of a survey of public education in Nassau county, New York. Albany, University of the State of New York, 1918. 291 p. 8°. (University of the State of New York bulletin, no. 652, December 1, 1917.)  
Part I, conducted by L. S. Hawkins of the State department of education, and George D. Stray of the Department of educational administration, Teachers college, Columbia university, p. 6-22. Part II, conducted by A. C. Monahan, J. C. Muerman, Katherine M. Cook and Belvia E. Cuzzart, representing the U. S. Bureau of education, p. 231-87.
654. **Newlee, Clara E.** The Cleveland arithmetic test given to a small class of deaf children. *Volta review*, 20 : 212-22, April 1918.
655. **O'Hern, Joseph P.** A practical application of standard tests in spelling, language and arithmetic. *Journal of the New York state teachers' association*, 5 : 46-56, March 1918.  
Results of some tests given in Rochester, N. Y.
656. **Pechstein, L. A.** Penmanship scales—their merits and limitations. *Journal of the New York state teachers' association*, 5 : 41-45, March 1918.  
A summary of two addresses at the Syracuse meeting (1917) of the New York state teachers' association.
657. **Pintner, Rudolf and Toops, Herbert A.** Mental tests of unemployed men. *Journal of applied psychology*, 2 : 15-25, March 1918.  
Continued from previous issue. Study based on investigation at the Dayton (Ohio) free employment office. Deals with educational conditions, etc.
658. **Stamford, Conn. School committee.** The mirror as we see ourselves. Stamford, Connecticut, public schools. A partial "auto-survey" for the period September, 1916, to February, 1918. 28 p. illus., diagrs. 8°.
659. **Survey of Walker county schools.** *Texas school journal*, 35 : 13-15, March 1918.  
Facts brought out in the survey of Walker county, Texas, made by the U. S. Bureau of education in February 1917.
660. **Wallin, J. E. Wallace.** Preliminary impressions of the Stanford revision of the Binet-Simon scale. *Psychological clinic*, 12 : 1-15, March 15, 1918.
661. **Wisconsin. Department of education.** An educational survey of Janesville, Wisconsin. Issued by C. P. Cary, state superintendent. Madison, Wis., State department of public instruction, 1918. 329 p. 8°.  
Prepared by W. W. Theisen, director of the survey; H. L. Terry; B. R. Buckingham; H. N. Goddard; Amy Bronsky; Maybell G. Bush; Annie Reynolds; Janet R. Rankin; J. M. Dorrans; O. S. Rice; A. B. Cook; P. W. Dykema; and Lucy D. Hale.
662. **Zirbes, Laura.** Diagnostic measurement as a basis for procedure. *Elementary school journal*, 18 : 505-22, March 1918.  
Submits evidence of the practicability of individualized instruction under classroom conditions; how standard tests and scales are used. Deals with study of reading. Illustrated with graphs.

#### SPECIAL SUBJECTS OF CURRICULUM.

663. **Missouri music teachers' association.** Official report of the twenty-second annual convention, Springfield, Mo., June 19-21, 1917. 57 p. 8°. (Tyrie W. Lyon, secretary-treasurer, St. Louis, Mo.)
664. **Allen, Jessie E.** The importance of good teaching as a basis for lasting interest in Latin. *Classical journal*, 13 : 470-75, April 1918.  
Emphasis on vitalized methods in teaching Latin. Importance of the classics discussed.
665. **American students boycotting German.** *Literary digest*, 56 : 29-31, 44, 46-50, 52, 54-55, 58, 61-64, 66, 70, 72-74, March 30, 1918.  
A nation-wide poll showing that "the German classes are dwindling in various parts of the country—10 per cent here, 50 per cent there." Study of French and Spanish crowding out the German language in public schools.

666. **Beach, Arthur G.** The teacher of English. American schoolmaster, 11 : 97-105, March 15, 1918.  
Present-day demands upon the teacher of English.
667. **Breene, Mary L.** The new problems of the secondary Latin teacher in first and second year Latin. Classical weekly, 11 : 153-55, March 18, 1918.  
A paper read at the eleventh annual meeting of the Classical association of the Atlantic states, Pittsburgh, April 28, 1917.
668. **Caldwell, Otis W., and others.** The course in natural science in the University elementary school. Elementary school journal, 18 : 493-504, 571-87, March, April 1918.
669. **Cook, Elizabeth Christine.** An experiment in the teaching of college English Teachers college record, 19 : 131-46, March 1918.  
An experiment in college English to show whether freedom in class work develops more genuine literary taste and judgment in students than regularly imposed lessons.
670. **Davillé, Louis.** L'enseignement secondaire de l'histoire et les programmes de 1902. III. Esquisse de nouveaux programmes. Éducation, 9 : 433-48, December 1917.  
Concluding article of series.
671. **Davis, Alfred.** Valid aims and purposes for the study of mathematics in secondary schools. School science and mathematics, 18 : 313-24, April 1918.  
Report submitted by a committee of the Mathematics club of Chicago, of which Mr. Davis is chairman. Continued from March number. Says that mathematics should be *required of every* secondary school pupil; "the required work may consist of courses allotted to the junior high school, if that institution is to prevail; or it may, under the present arrangement, be reduced to one year and consist of algebra and geometry, with some reference to the use of the trigonometric functions."
672. **Dillon, Charles.** Journalism for high schools; a guide-book for students in conducting the school paper, and in preparing themselves for newspaper work as a profession. New York, L. A. Noble [1918] 119 p. 12°.
673. **Downer, Charles H.** Teaching American soldiers a little French. Modern language journal, 2 : 239-47, March 1918.  
A paper read before the Modern language association at Yale university, December 28, 1917.  
A statement of the author's own views and experiences in teaching French to the soldiers.
674. **Drummond, A. M.** Fifty more one-act plays for school and college amateurs. Quarterly journal of speech education, 4 : 216-21, March 1918.  
An annotated bibliography, giving addresses of play-brokers and agents controlling plays listed.
675. ———. Some continental plays for amateurs. English journal, 7 : 187-92, March 1918.  
List of plays suitable for high-school students, with annotations.
676. **Ferguson, H. O.** What constitutes an efficient music department in the modern school system? School music, 19 : 24-28, 30, 32, March-April 1918.  
A paper read before the Nebraska teachers' association.
677. **Greene, Evarts B.** Right and wrong uses of history in a scheme of civic education. School and home education, 37 : 175-78, April 1918.  
A paper read at the annual meeting of the National society for the study of education, Atlantic City, February 25, 1918.
678. **Hanford, J. H.** Relating the English course to the world crisis. III. English literature and the present crisis. High school journal, 1 : 2-6, April 1918.  
Points out individual works in the high-school list which seem to be best adapted to present use.
679. **Hayden, Philip C.** Teaching music reading in the public schools—an open discussion. School music, 19 : 8-16, March-April 1918.
680. **Houghton, Harry G.** A beginning course in public speaking for colleges and universities. Quarterly journal of speech education, 4 : 150-59, March 1918.  
Says that an examination of beginning courses as they are now offered in various institutions reveals a striking lack of uniformity. Shows the methods in vogue in the University of Wisconsin.

681. **Hubbard, George D.** Reasons for giving geography a greater place in the high schools. *School science and mathematics*, 18: 291-304, April 1918.  
Read before the Central association of science and mathematics teachers at Columbus, Ohio, December 1, 1917.
682. **Kalb, Dorothy B.** The child and drawing. *Virginia journal of education*, 11: 350-54, April 1918.  
An address delivered at the Superintendence association, Roanoke conference, showing the benefits of drawing and the reason why we should teach our children to draw.
683. **Kendall, Calvin Noyes and Stryker, Florence Elizabeth.** History in the elementary school. Boston, New York [etc.] Houghton Mifflin company [1918] viii, 135 p. 12°. (Riverside educational monographs, ed. by H. Suzzallo.)
684. **Kendel, John Clark.** Teachers college and the rural school music problem. *Colorado school journal*, 33: 14-17, March 1918.  
A paper read before the Colorado education association, November 1917.
685. **Knapp, Charles.** The humanities and the sciences in England. *School and society*, 7: 413-17, April 6, 1918.  
Gives in part the report of the Classical association of England and Wales on the humanities vs. the natural sciences.
686. **Loevenguth, J. C.** General science in the junior high school. *General science quarterly*, 2: 367-79, March 1918.  
Advocates beginning science in the seventh grade, not only because it would enrich this grade but also relieve the regular high-school programme.
687. **Modern language association.** Committee reports of the Romance section of the central division. I. First year French in college, p. 260-72. II. First year Italian in college, p. 273-74. *Modern language journal*, 2: 260-74, March 1918.
688. **Oliver, Thomas Edward.** The menace to our ideals. *Publications of the Modern language association of America*, 33: lxxxix-cxv, March 1918.  
Chairman's address at the 23d annual meeting of the Central division of the Modern language association of America, Madison, Wis., December 27, 1917.  
Discusses the proper attitude for the professor of modern languages to assume toward the present world crisis. The address is frankly conciliatory in tone. The writer agrees to the removal of any artificial stimulus to the study of German, but thinks that any wholesale injustice to one of the great cultural languages should be avoided.
689. **Pond, Samuel E.** A contribution to the study of instrumental music. *Journal of applied psychology*, 2: 52-66, March 1918.  
Investigation aims "to make a contribution which may be of service in mastering the technique of musical instruments and especially of the French horn."
690. **Salisbury, Rollin D.** Geology in education. *Science*, n. s. 47: 325-35, April 5, 1918.  
Address of the vice-president and chairman of Section E—geology and geography—American association for the advancement of science, Pittsburgh, December 1917.  
Advantages resulting from the study of geology.
691. **Schoch, E. P.** Baby talk science. *School and science review*, 1: 86-91, March 1918.  
An address before the Texas state teachers' association, 1917.  
The causes of the present ineffective teaching of science in the high schools and how to remove them.
692. **Valentine, C. M.** An inquiry into the value of and the study of Latin and Greek. *School world* (London) 20: 84-87, March 1918.  
Third and concluding paper of series. Treats the classics as a means of selecting the intelligent; and summarizes the preceding papers.
693. **Wade, Frank B.** The chemistry teacher's opportunity. *School science and mathematics*, 18: 307-12, April 1918.  
Chemistry teacher and the war.

694. **Watt, Homer A.** The philosophy of real composition. English journal, 7 : 153-62, March 1918.  
Believes that instruction in English composition should be based upon "a real contest between the student-writer with ideas which he believes are worth making clear and the instructor and sometimes the other members of the class, who must be made to understand these ideas."
695. **Weaver, Andrew T.** Argumentation and debate in high schools. Quarterly journal of speech education, 4 : 160-69, March 1918.  
The ethics involved in interscholastic debates discussed.
696. **Wells, H. N.** Coaching debates. Quarterly journal of speech education, 4 : 170-83, March 1918.
697. **Whitbeck, R. H.** How the experience of physical geography may be an aid to general science. General science quarterly, 2 : 381-86, March 1918.  
A review of the experience of physical geography as a high school science during the last twenty-five years.
698. ——— The need of broad-gauge courses in geography. School review, 26 : 199-204, March 1918.  
Writer says: "The kind of geography which the demands of life call for is a sort of politico-economic geography of the nations which constitute the dominant powers or the rising powers of the world."
699. **Wilds, Elmer H.** Speech education in secondary schools—a bibliography. Quarterly journal of speech education, 4 : 184-95, March 1918.
700. **Wilson, Leta M.** Factors in successful teaching that need to be stressed in both high school and college. Classical journal, 13 : 476-82, April 1918.  
Discusses the teaching of Latin in its various phases; emphasizes the development of the power of initiative in the pupil.
701. The work of the American speech committee of the Chicago woman's club, and notes upon its school survey. English journal, 7 : 163-76, March 1918.  
*Katherine K. Robbins, chairman.*  
Says that the question of voice is almost wholly neglected. Cites experiences in twenty-five public schools of Chicago.
702. **Wright, Anna Allen.** Nature-study for the city child. Nature-study review, 14 : 93-100, March 1918.  
Tells of the great need for nature-study in the city schools and suggests some of the material for nature-study that city schools have at hand.

#### KINDERGARTEN AND PRIMARY SCHOOL.

703. **Barbour, Caroline W.** The free period as an educational factor. Kindergarten and first grade, 3 : 133-39, April 1918.  
Gives some of the values resulting from the free period in the kindergarten.

#### RURAL EDUCATION.

704. **Carney, Mabel.** The service of Teachers college to rural education. Teachers college record, 19 : 147-55, March 1918.  
The chief purposes of the department of rural education and country life in Teachers college, the principles and plan of organization.

#### SECONDARY EDUCATION.

705. **Davis, C. O.** High school observation work. School review, 26 : 168-79, March 1918.  
Describes the plan in vogue at the University of Michigan.
706. **Green, C. A.** The junior high school—points opposed to it. Kansas journal of education, 12 : 1, 10, 12, April 6; 8-9, April 13, 1918.  
Also in Oklahoma journal of education, 7 : 1, 10, 12, April 6, 1918.
707. **Harwood, Hazel M.** Extra-curricular activities in high schools. School review, 26 : 273-81, April 1918.  
Says that many schools have come to the conclusion that the best solution of the problem is through a general organization composed of all the pupils in the school, which shall be a central organ for the direction of every type and variety of associations, clubs, etc.

708. **Hill, Clyde M.** Vermont junior high schools. Suggestions for teachers. Montpelier, Capital City press, 1918. 176 p. illus. 8°. (Vermont. State board of education. Bulletin no. 1, 1918.)
709. **Kansas teacher**, vol. 6, no. 5, April 1918. (High school number.)  
Contains: 1. V. L. Strickland: The junior high school industrial art shop, p. 7-9. 2. Charles Dillon: High school journalism, p. 10-12. 3. Raymond Kent: Current literature in homes of high school pupils, p. 12-13, 21. 4. W. D. Armentrout: A social survey of the needs in current reading, p. 16-17, 21. 5. H. L. Kent: The Smith-Hughes law and the high schools, p. 22-24.
710. **Miles, Dudley.** Are high school publications worth while? Journal of the New York state teachers' association, 5 : 66-70, March 1918.
711. **Munhall, Pa.** A progress booklet issued at the dedication of the addition to the Munhall high school, March 22, 1918. 32 p. illus. 8°.
712. **Pound, Olivia.** The need of a constructive social program for the high school. School review, 26 : 153-67, March 1918.  
Discusses student participation in the management of the school. Describes methods in vogue in various high schools of the country.
713. **Schwiering, O. C.** Adapting the junior high school organization to the needs of the Wyoming community. Wyoming school journal, 14 : 221-23, March 1918.
714. **Stetson, Paul C.** A statistical study of the junior high school from the point of view of enrolment. School review, 26 : 233-45, April 1918.  
Study of the junior-high school movement in Grand Rapids, Michigan, covering a period from 1912 to 1916 inclusive. Presents among other data statistics showing the retentive power of the junior high school. Illustrated with graphs.
715. **Stockard, L. V.** Classification and affiliation of high schools by the State department of education. Texas school journal, 35 : 9-11, 27, March 1918.  
A paper read at the Texas state teachers' association, Waco, Texas.
716. **Ward, L. C.** The curriculum of the modern six-year secondary school. School review, 26 : 282-85, April 1918.  
Says that all avocational subjects should be freely elective, the time allotment for such work to be determined largely by the requirements of the general constants and the group constants. Such subjects are art, music, foreign languages, advanced sciences and literature, history, dramatics, and public speaking.

#### TEACHERS: TRAINING AND PROFESSIONAL STATUS.

717. **Abbott, Lyman.** Have teachers special privileges? Outlook, 118 : 478-79, March 27, 1918.  
A discussion of academic freedom in its various phases.
718. **Academic freedom in war time.** Nation, 106 : 401-3, April 4, 1918.  
Two letters to the editor of the Nation from Arthur O. Lovejoy and Raymond Macdonald Alden, relative to the recent report of the Committee on academic freedom of the American association of university professors.
719. **Ashley, R. L.** The teacher in war time. Sierra educational news, 14 : 213-16, April 1918.  
Opportunities and responsibilities of the teacher in war time.
720. **Bagley, W. C.** The distinction between academic and professional subjects in the training of teachers. School and home education, 37 : 151-53, March 1918.  
A paper read before the Normal school department at the Atlantic City meeting of the National education association.
721. **Boggs, L. Pearl.** The making of teachers. School and society, 7 : 369-74, March 30, 1918.  
Says the normal schools or colleges alone can not make teachers. It is the business of the church, the state, of great men and women of every calling to contribute towards the making of the teacher.
722. **Carnegie foundation for the advancement of teaching.** Twelfth annual report of the president and of the treasurer. New York city, 1917. 154 p. 8°.



723. **Colvin, Stephen S.** The most common faults of beginning high-school teachers. *School and society*, 7 : 451-59, April 20, 1918.  
Read before the Society of college teachers of education at Atlantic City, February 26, 1918.
724. **Directory of educational associations.** *Journal of education (London)* 50 : 175-80, March 1918.  
A list of the principal British associations with name and address of secretary, membership total, date and place of next meeting, etc., for each.
725. **Fuller, Edward H.** Educational associations and organizations in the United States. *Educational review*, 55 : 300-25, April 1918.  
Reviews the establishment and history of the various educational associations; their influence on education, etc.
726. **Hendricks, E. L.** Why the normal school should train high-school teachers. *American school*, 4 : 77-78, March 1918.  
Read before the National council of normal school presidents, Atlantic City, N. J., February 1918.
727. **Lenhart, Pearl.** A cross section of teachers' finances. *Educational review*, 55 : 294-99, April 1918.  
Study based on replies to a questionnaire sent out in December, 1917, to the 900 elementary teachers in the Kansas City schools. How teachers spend their salaries. A plea for adequate salaries to permit teachers to assume the social position the public demand of them.
728. **Lowell, Abbott L.** 'Academic freedom. *Harvard graduates' magazine*, 26 : 524-27, March 1918.  
From President Lowell's annual report to the Board of overseers, 1916-1917.
729. **Merriman, E. D.** Evaluating teaching service. *Educator-journal*, 18 : 408-10, 466-68, April, May 1918.  
The qualities of merit in schoolroom teaching.
730. **Moody, Floyd E.** The correlation of the professional training with the teaching success of normal-school graduates. *School review*, 26 : 180-98, March 1918.  
Presents the correlation of the school marks of 668 normal-school graduates with their salary during the sixth year of teaching experience. Data gathered from the alumni records of three Illinois state normal schools. Illustrated with graphs and statistical tables. Writer concludes that though scholarship is necessary it does not insure teaching success.
731. **Pitman, J. Ashbury.** Where shall junior high-school teachers be trained? *American schoolmaster*, 11 : 145-49, April 15, 1918.  
A paper read before the National council of normal-school presidents and principals at Atlantic City, February 22, 1918.  
Says in conclusion that the responsibility of preparing teachers for the junior high school rests upon the normal schools.
732. **Report of Committee on normal-school standards and surveys.** *American schoolmaster*, 11 : 161-67, April 15, 1918.  
A portion of the report of the Committee on normal-school standards and surveys made to the National council of normal-school presidents and principals at Kansas City in 1917, and released for publication at the recent meeting at Atlantic City.
733. **Salaries of teachers in elementary schools.** *School world (London)* 20 : 89-91, March 1918.  
Summarization of a report of Departmental committee on "Scales of salary for teachers in elementary schools of England."
734. **Spillman, Mignonette.** Success in school. *High school quarterly*, 6 : 190-96, April 1918.  
Some suggestions for increasing the efficiency of high-school teachers.
735. **Teaching as a self-governing profession.** *Journal of education (London)* 50 : 182-83, 185, March 1918.  
A plea for academic freedom. Describes conditions in England.

#### HIGHER EDUCATION.

736. **Bolton, Frederick E.** The teaching of educational theory in college and university departments of education. *Educational administration and supervision*, 4 : 99-113, April 1918.  
Selected bibliography: p. 111-13.

737. **Cunningham, W.** The universities and the nation. Contemporary review, 113 : 280-87, March 1918.  
A study of conditions in the English universities, especially the University of Cambridge. Democracy and the higher education.
738. **Matthews, Nathan.** The legal aspects and educational results of the Harvard-Technology decision. Harvard graduates' magazine, 26 : 391-403, March 1918.  
The legal meaning and the educational effect of the decision of the Supreme Judicial Court regarding the McKay will, in the Harvard-Technology case.
739. **Wheeler, Benjamin Ide.** The place of the state university in American education. School and society, 7 : 361-64, March 30, 1918.  
An address before the Department of superintendence of the National education association, Atlantic City, February 27, 1918.

#### SCHOOL ADMINISTRATION.

740. **Crumley, Charles W.** The departmental plan of school organization as adopted by the schools of Fort Myers, Florida. High school quarterly, 6 : 173-78, April 1918.  
Gives the details of the plan which includes the following departments: Administration, supervision and instruction, buildings and grounds, playground activities, school and home correlation, and educational research.
741. **Mead, Cyrus D.** The best method of selecting textbooks. Educational administration and supervision, 4 : 61-69, February 1918.
742. **Miles, Dudley.** Supervision of English teaching. English journal, 7 : 229-36, April 1918.  
Read before the National council of teachers of English, November 1917.  
Describes a system of supervision with a single object—to develop every teacher in the department to his best achievement.
743. **Palmer, F. E.** Economy of time: a twelve months school, divided into four quarters. American education, 21 : 396-99, April 1918.  
The all-year-round school in Mason City, Iowa.
744. **Shawkey, M. P.** The adoption of textbooks by state, county, or district. American education, 21 : 402-4, April 1918.
745. **Smith, Payson.** Limitations of state control in education. School and society, 7 : 391-94, April 6, 1918.  
Address delivered at Atlantic City, February 27, 1918.  
Also in Journal of education, 87 : 339-41, March 28, 1918.
746. **Talbert, Wilford E.** To bond or not to bond? American school-board journal, 56 : 21-22, 76-77, April 1918.  
A few fundamental principles of the school bond question.
747. **Williams, Henry G.** The state's relation to public education. Ohio teacher, 38 : 339-44, March 1918.  
Also separately reprinted.  
The question of school support in Ohio.

#### SCHOOL MANAGEMENT.

748. **Burk, Frederic.** Individual instruction vs. the lockstep system. American city, 18 : 327-30, April 1918.  
Describes an experiment at the State Normal school, at San Francisco, California. Individual system of instruction was introduced into the elementary department of the school, maintained to train students as teachers. Good results cited. Lockstep in American education criticised.
749. **Clapp, Henry L.** Pupil self-government. Education, 38 : 593-609, April 1918.  
A plea for pupil self-government. Cites some interesting examples.
750. **Finney, Ross L.** The sociological principle determining the elementary curriculum. School and society, 7 : 338-49, March 23, 1918.
751. **Hall-Quest, Alfred L.** How to introduce supervised study. School index (Cincinnati) 4 : 236-37, April 5, 1918.  
Suggestions for the introduction of supervised study.

752. **Meier, A. G.** Semester reorganization and program-making in the Central high school of St. Paul, Minnesota. *School review*, 26 : 249-58, April 1918.
753. **Shipley, James H.** How can we minimize the effect of examinations on secondary education? *Mathematics teacher*, 10 : 125-38, March 1918.

First, shows the reasons why examinations are injurious, and then advocates that the present wasteful examination system in New York state be abolished.

754. **Willett, G. W.** Supervised study in high school. *School review*, 26 : 259-72, April 1918.

Says that the problem is to develop a specialized technique for each individual subject, and to train teachers so that they can efficiently administer that technique so as to reach the individual pupils of their classes. Contains a bibliography.

#### SCHOOL ARCHITECTURE.

755. **Perkins, Dwight Heald.** One-story school buildings. *American school board journal*, 56 : 17-20, 77-78, April 1918. illus.

#### SCHOOL HYGIENE AND SANITATION.

756. **Averill, Lawrence Augustus.** Physical preparedness and the administration of school medical inspection in the United States. *American journal of school hygiene*, 2 : 19-32, April 1918.

The necessity for greater physical preparedness as shown by the recent examinations of the drafted men, and the present country-wide situation in regard to medical inspection.

757. **Deering, George E.** Efficiency in the examination of school children. *Boston medical and surgical journal*, 78 : 498-501, April 11, 1918.

Work of the Worcester (Mass.) Board of health. A method of examination described as rapid and flexible, and comparatively thorough.

758. **Hammett, C. E.** The health of college athletes. *Scientific monthly*, 6 : 350-54, April 1918.

Presents data to show that an overwhelming majority of college athletes derive substantial benefit from their participation in college sports and that the percentage of serious injuries is small.

759. **Johnson, Earle E.** Effects of decayed teeth upon a child's progress in school. *Dental cosmos*, 60 : 293-96, April 1918.

Work of the dental clinics in the schools of Vermont.

760. **Kerr, James.** Standard measurements for school children. *American journal of school hygiene*, 2 : 2-19, March 1918.

An address at the annual meeting of the Medical officers of schools association, December 4, 1917.

Measurements of height, weight, etc.

761. **Manny, Frank A.** Defective nutrition and the standard of living. *Survey*, 39 : 608-701, March 30, 1918.

Study of the health and nutrition conditions among the pupils of two schools in the Gramercy district of New York city. Says that at least one-third of the school children are so much below normal standards of growth as to call for special nutritional care.

762. **Weinzirl, John.** A plea for health instruction in our colleges and universities. *School and society*, 7 : 427-32, April 13, 1918.

Gives a proposed program for health instruction and dangers to be avoided.

#### PHYSICAL TRAINING.

763. **National collegiate athletic association.** Papers presented at the twelfth annual convention. *American physical education review*, 23 : 131-59, March 1918.

Contains: 1. P. E. Pierce: The president's address, p. 131-36. 2. W. H. P. Faunce: Athletics for the service of the nation, p. 137-43. 3. J. E. Raycroft: Training camp activities, p. 143-50. 4. G. E. Vincent: Address, p. 150-55. 5. R. T. McKenzie: Address, p. 155-57. 6. W. P. Reeves: The adoption of military rifle shooting as an intercollegiate sport, p. 157-59.

764. **Dearborn, George Van Ness.** Some relations of exercise to nutrition. Boston, Press of Jamaica printing company, 1918. 32 p. 8°.

Reprinted from the Boston medical and surgical journal, vol. 178, no. 14, p. 458-67, April 4, 1918.

765. **Steever, E. Z. and Frink, J. L.** The cadet manual; official handbook for high school volunteers of the United States. Philadelphia and London, J. B. Lippincott company [1918]. 317 p. illus., plates (part. fold., part. col.). 8°.

#### PLAY AND PLAYGROUNDS.

766. **Playground and recreation association of America.** Yearbook. **Playground**, 12 : 3-47, April 1918.  
Contains a list of officers of recreation commissions and associations, "What cities 'played' last year and how," and, What small communities are doing.

#### SOCIAL ASPECTS OF EDUCATION.

767. **Fell, E. E.** Socializing the school and the community. **Moderator-topics**, 38 : 453-55, 469-71, March 28, April 4, 1918.  
A paper read before the Michigan state teachers' association, Grand Rapids, November 1917. Socializing the schools in Holland, Michigan.
768. **Hoyt, Edith E.** Parent-teacher associations. Madison, 1918. 28 p. 12°.  
(Bulletin of the University of Wisconsin. General series no. 704.)  
Bibliography: p. 24-27.  
Organization, plan of work, etc., for parent-teacher associations.
769. **McCracken, Henry.** Education and the junior Red cross. **General federation magazine**, 17 : 15-16, March 1918.
770. **Sellers, Edith.** The elementary school child's mother. **Nineteenth century**, 83 : 553-66, March 1918.  
Difficulties experienced in England in dealing with the mothers of school children. Urges more cooperation between teachers and parents.
771. **Wilson, H. B.** Socializing the school. **Educational administration and supervision**, 4 : 88-94, April 1918.  
Gives the essentials of a socialized school.

#### CHILD-WELFARE.

772. **Child labor bulletin**, vol. 6, no. 4, February 1918.  
Contains: 1. Florence I. Taylor: Physical welfare of employed children, p. 219-29. 2. Anna Rochester: Child labor in warring countries, p. 230-40.
773. **Henderson, Ernest F.** War orphans and child welfare in Germany. **Survey**, 40 : 39-41, April 13, 1918.  
Deals with a number of school activities, such as school meals, vocational guidance, etc.

#### MORAL AND RELIGIOUS EDUCATION.

774. **Hunter, Marie Cole.** The international note in the church school curriculum. **Religious education**, 13 : 107-18, April 1918.  
This paper was read before the sectional meeting of Church Directors at New York, on March 7, 1918.
775. **King, Irving.** The annual survey of progress. **Community cooperation.** **Religious education**, 13 : 93-106, April 1918.  
A "review of typical expressions of our rapidly developing community consciousness."
776. **MacVay, Anna P.** Co-operation between school and college in character formation. **High school quarterly**, 6 : 157-63, April 1918.  
Tells of the character records kept in the Wadleigh high school, New York City, and shows the use which is made of them.
777. **Syllabus on manners and conduct of life as adopted by the Board of superintendents (New York City)**, May 4, 1917. **McEvoy magazine**, 10 : 451-56, April 1918.  
Conduct in the home, in the school, and in the outside world.

#### MANUAL AND VOCATIONAL TRAINING.

778. **Ferguson, Reginald W.** An industrial training experiment in England. **National association of corporation schools bulletin**, 5 : 155-67, April 1918.  
An account of the educational scheme developed by Cadbury brothers at their Bournville chocolate works and a summary of results after twelve years of experiments.

779. **Johnson, D. D.** Qualitative standards for the making of curricula in industrial arts for the elementary school. *Industrial-arts magazine*, 7 : 123-27, April 1918.
780. **McCormack, Thomas J.** The heritages of the past. *School and home education*, 37 : 154-58, March 1918.  
 Presidential address delivered at the Illinois Valley division of the State teachers' association, Ottawa, Ill., October 19, 1917.  
 A plea that the schools seek a balance between vocationalism and classicism. Speaks of the results that follow in the train of the overemphasis of either, etc.
781. **Snedden, David.** The practical arts in general education. *Teachers college record*, 19 : 156-84, March 1918.  
 Continued from the January number.
782. **U. S. Federal board for vocational education.** Agricultural education. Organization and administration. Washington, Government printing office, 1918. 43 p. 8°. (Bulletin no. 13. Agricultural series no. 1, March 1918)
783. ——— Emergency war training for gas-engine, motor-car, and motor-cycle repairmen. Washington, Government printing office, 1918. 79 p. 8°. (Bulletin no. 10, March 1918)
784. **Weld, L. G.** Ideals of industrial education. *Manual training magazine*, 19 : 263-65, April 1918.  
 This statement of ideals constituted the concluding part of an address at the recent meeting of the Illinois manual arts association, held at Ottawa, Illinois.

#### VOCATIONAL GUIDANCE.

785. **Mercante, Victor.** The pedagogical significance of vocation. *Inter-America*, 1 : 237-43, April 1918.  
 Urges teachers to consider their obligation to aid pupils to the wise choice of a vocation by discovering their aptitudes. Emphasizes the need of a rigid selection in the process of class promotion.

#### SCHOOL GARDENS.

786. **Billig, Florence G.** School gardening—a force in civic training. *Nature-study review*, 14 : 89-92, March 1918.
787. **Davis, Kary Cadmus.** School and home gardening; a textbook for young people, with plans, suggestions, and helps for teachers, club leaders and organizers. Philadelphia and London, J. B. Lippincott company [1918] 353 p. illus., front. 12°.

#### HOME ECONOMICS.

788. **Charters, W. W.** The project in home economics teaching. *Journal of home economics*, 10 : 114-19, March 1918.  
 Presented at the meeting of the American home economics association, Kansas City, February 1917.
789. **Cooley, Anna M., Winchell, Cora M., Spohr, Wilhelmina, and Marshall, Josephine A.** Home economics studies in grades seven to twelve. *Teachers college record*, 19 : 119-30, March 1918.  
 This article is one of four parts which together will define the content and conduct of the home economics subjects for grades 7 to 12.

#### COMMERCIAL EDUCATION.

790. **Swiggett, Glen L.** Training for foreign service. *Educational review*, 55 : 271-83, April 1918.  
 Discusses importance of commercial education. Says that emphasis should be put upon "the essential differentiation of a study-group for business, domestic and foreign, with universal opportunity for pursuit on the part of the student but with vocational guidance, and taught by those who have had at least some practical experience in their subjects of instruction."

## PROFESSIONAL EDUCATION.

791. **Aikens, Charlotte A.** The system of training and the nurse. Trained nurse, 60 : 197-200, 261-64, April, May 1918.  
Criticises the multiplicity of subjects taught in training schools for nurses. Some of the scientific subjects, such as advanced chemistry, are of little value to the student.
792. **French, Harley E.** Entrance conditions in medical schools. Journal of the American medical association, 70 : 1058-61, April 13, 1918.  
Gives the ideal standard for medical entrance; method of enrolment; scholarship of conditioned men, etc.; preponderance of reasons in favor of the continuance of entrance conditions.
793. State board statistics for 1917. Annual presentation by the Council on medical education of results of State board examinations. Journal of the American medical association, 70 : 1073-94, April 13, 1918.  
Valuable tabulation of medical school graduates of 1913 to 1917 inclusive, examined by State boards during 1917.

## CIVIC EDUCATION.

794. **Moret, Suzanne.** Le patriotisme à l'école américaine. Revue de Paris, 24 : 387-404, November 15, 1917.  
Gives an account of the writer's observations while visiting American schools. The article is reviewed in Revue universitaire, 27 : 51-54, January 1918.
795. **Wade, Martin J.** Education in Americanism. Catholic educational review, 15 : 223-40, March 1918.  
An address delivered at the annual meeting of the Iowa bar association, Council Bluffs, June 28, 1917.  
The necessity for teaching law and government from the primary grades through the high schools.

## REEDUCATION OF WAR INVALIDS.

796. **Bailey, Pearce.** The care of disabled returned soldiers. Mental hygiene, 1 : 345-53, July 1917.  
Advocates the creation of federal and state boards of re-employment, which shall meet "the returned soldier at all points of discharge, and facilitate his return to self-support and independence in the civil community."

## EDUCATION OF WOMEN.

797. **Intercollegiate conference on vocational opportunities for women.** Abstracts of addresses delivered at the second conference held March 7-8, at Norton, Mass. Education, 38 : 557-77, April 1918.  
Contains: 1. Emille J. Hutchinson: The newer demands for college women, p. 566-69. 2. Julia C. Lathrop: Opportunities for women in government service, p. 573-76.
798. **Formiggini Santamaria, E.** Per la psicologia dell'adolescenza femminile. (Risposta a L. di San Giusto) Rivista pedagogica, 10 : 646-60, October-December 1917.
799. **Johnson, Burges.** Is the woman's college essential in war time? Outlook, 118 : 586-91, April 10, 1918.  
A discussion of war activities of women's colleges.
800. **Murtland, Cleo.** Pennsylvania's first trade school for girls. Industrial-arts magazine, 7 : 131-34, April 1918. illus.  
The establishment of the Philadelphia trade school for girls.

## EDUCATION OF DEAF.

801. **National association of the deaf.** Proceedings of the twelfth convention . . . held in Hartford, Conn., July 3-7, 1917. Olathe, Kan., Register print, 1918. 183 p. illus. 8°. (The Nad, vol. 3, no. 1, February 1918)
802. **Kennedy, Mildred.** How the study of speech-reading may be pursued by one living at a distance from school or teacher. Volta review, 20 : 135-37, March 1918.

## EXCEPTIONAL CHILDREN.

803. **Grossmann, Maximilian P. E.** School adjustment to different child types. *Educational foundations*, 29 : 393-405, March 1918.  
Read before the VIII. Conference of masters in church schools, at St. Luke's school, Wayne, Pa., September 14, 1915.
804. **Peacock, Robert.** Juvenile delinquency. *Child* (London) 8 : 265-82, March 1918.  
Conditions in English cities, particularly in Manchester. Discusses the increase in juvenile delinquency; causes of increase; and gives suggestions and remedies for the prevention and arrest of delinquency.
805. **Richardson, C. Spencer.** Dependent, delinquent and defective children of Delaware. New York city, Russell Sage foundation, Department of child-helping, 1918. 88 p. 8°.
806. **Sullivan, Joe F.** What the crippled child is entitled to. *Hospital school journal*, 6 : 3-4, 1918.  
The educational advantages to which the crippled child is entitled.
807. **Whittier state school, Whittier, Cal.** Department of research. Exceptional children in the schools of Santa Ana, California. A survey by the research staff of Whittier state school. Reported by J. Harold Williams. Whittier, Whittier state school, 1918. 40 p. 8°. (Bulletin no. 6)  
References for further study, p. 40.

## EDUCATION EXTENSION.

808. **Hathaway, Winifred.** University extension teaching in its relation to the conservation of health. *American journal of sociology*, 23 : 651-60, March 1918.  
Shows what American colleges and universities have accomplished in the line of health conservation, civic betterment, demonstration work, etc.
809. **Nalder, F. F.** A new field for ambitious teachers (I-III). *Journal of education*, 87 : 399-400, 438-39, 459-60, April 11, 18, 25, 1918.  
Pt. I, The development of extension service, the need for extension teachers, and the aims of university extension. Pt. II, The means of extension service. Pt. III, Marks of efficiency in extension service.

## LIBRARIES AND READING.

810. **Dana, John Cotton.** The changing character of libraries. *Atlantic monthly*, 121 : 481-85, April 1918.  
The theme of this article is that the day of the library of mere books is past; the day of the library of useful print has come.
811. **Jennings, J. T.** Librarianship as a profession in college and university libraries. *Library journal*, 43 : 227-33, April 1918.
812. **Wisconsin.** Department of public instruction. List of books for Wisconsin high school libraries, with indicated classification and cataloging; prepared by O. S. Rice and Bertha Bergold. Issued by C. P. Cary, state superintendent. Madison, Wis., 1917. 209 p. 8°.

## BUREAU OF EDUCATION: RECENT PUBLICATIONS.

813. Administrative organization of the college of agriculture, by C. D. Jarvis. Washington, 1918. 16 p. (Higher education circular no. 8, March 1918)
814. A community center. What it is and how to organize it. By Henry E. Jackson. Washington, 1918. 52 p. plates. (Bulletin, 1918, no. 11)
815. Current problems in home economics. Washington, 1918. 11 p. (Home economics circular no. 2, January 1, 1918)

816. Education in patriotism. A synopsis of the agencies at work. Washington, 1918. 10 p. (Teachers' leaflet no. 2, April 1918)
817. Government policies involving the schools in war time. Washington, 1918. (Teachers' leaflet no. 3, April 1918)  
Also in Survey, 39: 626-28, March 9, 1918.
818. Home economics teaching in small high schools. Washington, 1918. 7 (Home economics circular no. 3, January 1918)
819. Lessons in community and national life. Washington, 1918. 6 pamphlets. p. each. (Community leaflets, nos. 19-24)  
No. 19. Lesson A-24: Concentration of population in great cities. Lesson A-25: The intentions of the greatest manufacturing concern in the United States. Lesson A-26: Concentration of control in the railroad industry. Lesson A-27: Concentration of social institutions.  
No. 20. Lesson B-24: Building the industrial city of Gary. Lesson B-25: Concentration of production in the meat-packing industry. Lesson B-26: Concentration in the marketing of citrus fruit. Lesson B-27: Good roads.  
No. 21. Lesson C-25: A seaport as a center of concentration of population and wealth. Lesson C-26: Charity in the community. Lesson C-27: Early transportation in the far west. Lesson C-28: The first railway across the continent.  
No. 22. Lesson A-28: The worker in our society. Lesson A-29: The war labor administration. Lesson B-28: Women in industry. Lesson B-29: Labor organizations. Lesson B-30: Employment agencies. Lesson B-31: Employment management.  
No. 24. Lesson C-29: Child labor. Lesson C-30: Social insurance. Lesson C-31: Immigration. Lesson C-32: Housing for workers.
820. Library books for high schools, comp. by Martha Wilson. Washington, 1918. 175 p. (Bulletin, 1917, no. 41)
821. Organization of high schools in war time. Washington, 1918. 6 p. (Secondary school circular no. 2, April 1918)
822. Statistics of state universities and state colleges for the year ended June 30, 1917. Washington, 1918. 17 p. (Bulletin, 1917, no. 55)
823. Thirty American heroes. Washington, 1918. 4 p. (Home education division. Reading course no. 9. Biography)
824. Thirty world heroes. Washington, 1918. 4 p. (Home education division. Reading course no. 7)
825. The work of American colleges and universities during the war. Effect of the war on student enrollment. Washington, 1918. 3 p. (Higher education circular no. 9, April 1918)
826. The work of the American colleges and universities during the war. The importance of technical training in military operations; by M. E. Cooley. 2 p. (Higher education circular no. 7, March 1918)



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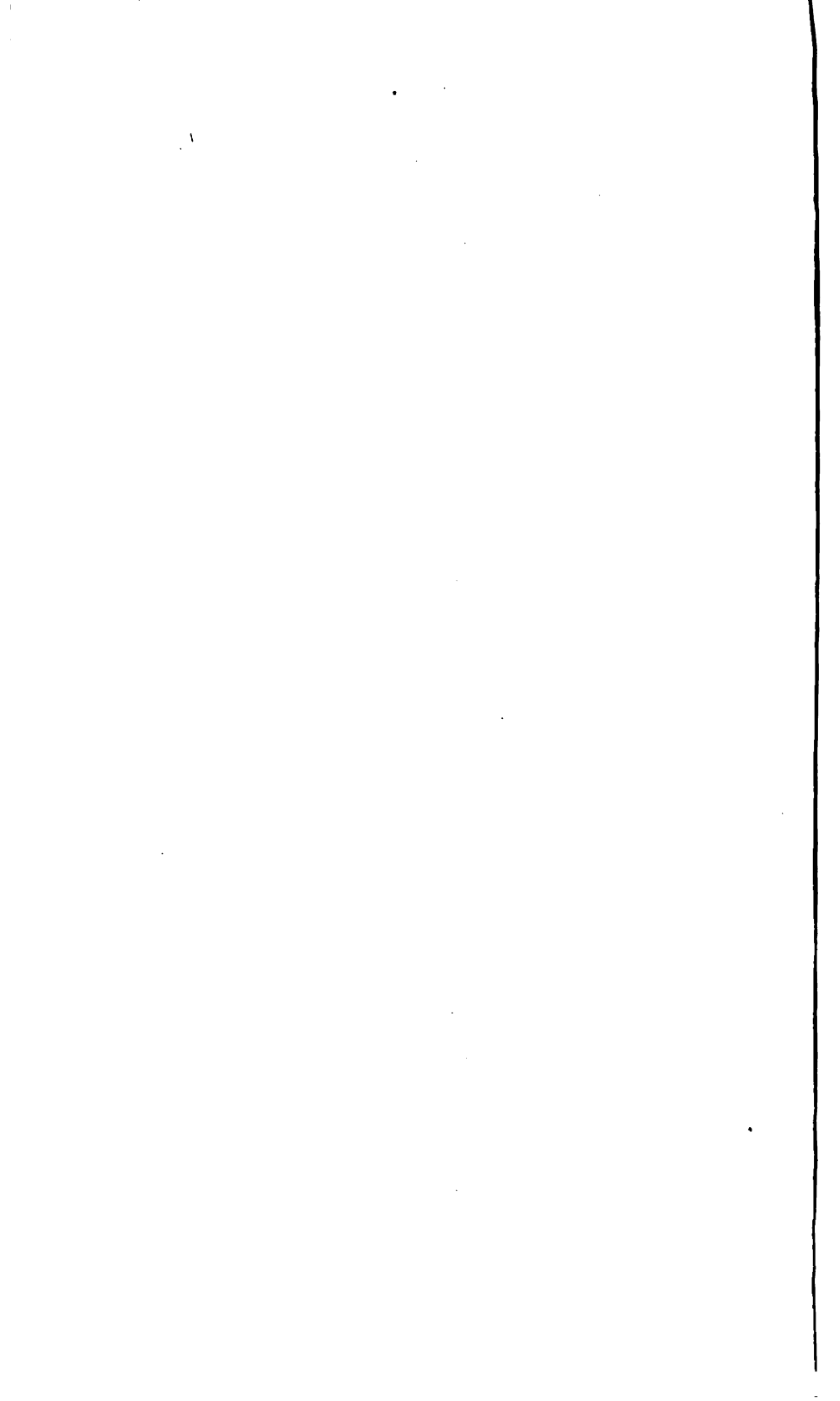
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